DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1995

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Department of Defense Appropriation...

BEFORE A

SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE

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HEARINGS

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1995

THURSDAY, APRIL 21, 1994.

CHEMICAL WEAPONS AND DEMILITARIZATION

WITNESSES

DR. HAROLD P. SMITH, ASSISTANT TO THE SECRETARY OF DEFENSE, FOR ATOMIC ENERGY

HON. ROBERT M. WALKER, ASSISTANT SECRETARY OF THE ARMY, INSTALLATIONS, LOGISTICS, AND ENVIRONMENT

BRIG. GEN. WALTER L. BUSBEE, USA, COMMANDER/DIRECTOR, U.S. ARMY CHEMICAL MATERIAL DESTRUCTION AGENCY

INTRODUCTION

Mr. MURTHA. The Committee will come to order.

This afternoon, the Committee considers the $575,349,000 budget request for the Chemical Agents and Munitions Destruction, Defense appropriation. The request represents a 15% increase over fiscal year 1994 and includes major equipment procurement requests for two facilities. The principal witnesses are Dr. Harold P. Smith, Assistant to the Secretary of Defense (Atomic Energy), and Mr. Robert M. (Mike) Walker, Assistant Secretary of the Army for Installations, Logistics and Environment. They are accompanied by Brig. Gen. Walter Busbee, Commander of the Army Chemical Materiel Destruction Agency. Mr. Walker, this is your first appearance before the Committee and we welcome you. Your full statements will be inserted in the record. Please summarize your statements and then we will proceed to questions.

SUMMARY STATEMENT OF DR. SMITH

Mr. SMITH. Mr. Chairman, I am happy to submit my statement for the record. I would like to make a brief oral statement, if I may.

Mr. Chairman, it is a pleasure to testify before this committee, on behalf of the Department of Defense on chemical and biological programs. I would like to cover here in this oral statement only three aspects: one, the CWC, Chemical Weapons Convention; two, the National Academy of Sciences' report on alternative technologies; and three, management of the chemical demilitarization program.

Ratification of the CWC without delay is of first order of importance to this administration, for the simple reason that we want to reduce as soon as possible the risk that our troops and possibly citizens may face from these insidious weapons.

We have an opportunity to rid the world of weapons that were first produced in 1917, and it is an opportunity in which the United States should lead. It is an opportunity not to be missed.

Some think we can delay ratification and/or implementation of this treaty because the Russians cannot meet their time lines. That assumption could well be false.

Under the Cooperative Threat Reduction (CTR) program in which you, Mr. Chairman, and you, Mr. McDade, played a key role by providing the necessary legislation, we are providing to the Russians a skilled and experienced primary contractor to help them begin the planning for their own chemical demilitarization program.

We are prepared, given your support, to provide to them a pilot plan to jump start that program; then if Russia decides to use the experience of the United States in research, development, and testing of the pilot plan, all based on lessons learned at Johnston Island, they could well meet time lines for the CWC, which is before the Duma at this time.

I would now like to turn to the National Academy of Sciences' report. Professor Peterson and his colleagues have done a first-class job. I intend to ensure that the Army implements their recommendations.

The Academy pointed out that incineration is safe and could be made even safer with the installation of charcoal filters which the Army has agreed to do.

Not only is incineration safe but more to the point, it is safer than delay, which imposes risks to the citizens living near the proposed sites. These citizens understand this.

I have personally visited with the farmers immediately adjacent to the Pueblo Army Depot. I have visited with interested citizens and elected officials as a guest of Congressman Browder. Of course these people are worried about the impact of incineration. But most understand that it is safe, and to do nothing is less safe.

The Academy noted that neutralization might be better and should therefore be studied. The Army has agreed. We should not overlook the simple fact that while agents may or may not be neutralized, the metal parts and dunnage must probably be incinerated. All of this must be factored into future decisions and will be. We should not delay the program while we wait for the next technology. To do so would not be in the best interests of the local citizens and it is not in the best interests of implementing the CWC.

This committee and OSD are very concerned that there may be a significant increase in cost in the chemical demilitarization program. We already know that the Army will spend a quarter of a billion dollars to install filters at the various sites as recommended by the Academy. And we know the Army will spend almost $50 million to examine the alternative technology.

Of course, they may spend even more if the decision to implement neutralization is taken. But these are known costs. Our real concern is the unknown cost which to my mind is most likely linked to delay, which could be caused by obtaining permits, or litigation, or other factors beyond the control of the Army.

But once again, the major message is that delay in implementing this program is the enemy of the CWC, local citizens and fiscal responsibility. There should be no further delay.

I have now had the pleasure of working with Brigadier General Walt Busbee, to my right, Commander of the U.S. Army Chemical Material Destruction Agency, for the past 10 months. I am convinced, as I think you are, Mr. Chairman, that we have in General Busbee a superb leader for this program.

I am also pleased that Mr. Mike Walker, Assistant Secretary of the Army for Installations, Logistics, and Environment, is now confirmed and in office, and will take responsibility for the Secretary for this program.

It is a pleasure to work with these gentlemen.

That concludes my testimony, Mr. Chairman. I look forward to your questions.

[The statement of Dr. Smith follows:]

RECORD STATEMENT

STATEMENT BY

DR. HAROLD P SMITH

ASSISTANT TO THE SECRETARY OF DEFENSE

(ATOMIC ENERGY)

BEFORE

SUBCOMMITTEE ON DEFENSE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

APRIL 21 1994

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MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

THANK YOU FOR THIS OPPORTUNITY TO DISCUSS THE DEPARTMENT OF DEFENSE CHEMICAL DEMILITARIZATION PROGRAM, CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM, AND CHEMICAL WEAPONS TREATY VERIFICATION RESEARCH AND DEVELOPMENT PROGRAM. AS THE TREATY MANAGER FOR OSD, I SHOULD ALSO MENTION OUR INVOLVEMENT IN THE DESTRUCTION OF THE FORMER SOVIET UNION CHEMICAL WARFARE STOCKPILE UNDER THE NUNN-LUGAR DISMANTLEMENT ACCOUNT OF THE 1993 DEFENSE AUTHORIZATION ACT. I APPRECIATE THE COMMITTEE'S CONTINUED INTEREST AND SUPPORT IN THESE AREAS AND SHALL BE HAPPY TO ANSWER ANY QUESTIONS YOU MAY HAVE.

THE CHANGING ENVIRONMENT

THREATS TO STABILITY IN KEY REGIONS THROUGHOUT THE WORLD HAVE BECOME AMERICA'S PRINCIPAL MILITARY CONCERN. OUR 1995 DEFENSE STRATEGY STRESSES INITIATIVES TO MEET DANGERS POSED BY NUCLEAR WEAPONS AND OTHER WEAPONS OF MASS DESTRUCTION (WMD) INCLUDING CHALLENGES ASSOCIATED WITH THE PROLIFERATION OF NUCLEAR, BIOLOGICAL AND CHEMICAL WEAPONS AND THEIR DELIVERY SYSTEMS, AS WELL AS THOSE ASSOCIATED WITH THE LARGE STOCKS OF NUCLEAR AND CHEMICAL WEAPONS THAT REMAIN IN THE FORMER SOVIET UNION.

TO ADDRESS THESE DANGERS, A PRIMARY TASK WILL BE TO MAINTAIN THE HIGH READINESS AND QUALITY OF OUR FORCES. DEPARTMENT EFFORTS TO ADDRESS THESE DANGERS AND MAINTAIN A HIGH READINESS STATE FOR OUR FORCES, INCLUDE A STRONG CHEMICAL AND BIOLOGICAL (CB) DEFENSE PROGRAM.

AS OUTLINED IN THE THOROUGHLY RESEARCHED REPORT OF THE SPECIAL INQUIRY OF THE HOUSE ARMED SERVICES COMMITTEE INTO THE CHEMICAL AND BIOLOGICAL WEAPONS THREAT, PUBLISHED LAST FEBRUARY, THE CHEMICAL AND BIOLOGICAL THREAT HAS INCREASED IN TERMS OF PROLIFERATION, TECHNOLOGICAL DIVERSITY AND PROBABILITY OF USE. AS THE DCI, JAMES WOOLSEY, TESTIFIED TO THE CONGRESS LAST YEAR, MORE THAN 2 DOZEN COUNTRIES HAVE PROGRAMS TO RESEARCH AND DEVELOP CHEMICAL WEAPONS, AND A NUMBER HAVE STOCKPILED SUCH WEAPONS. THERE HAS ALSO BEEN A DISTURBING PATTERN OF BIOLOGICAL WEAPONS DEVELOPMENT FOLLOWING CLOSELY ON THE HEELS OF CHEMICAL WEAPONS DEVELOPMENT.

THE REPORT FURTHER POINTS OUT THAT ALTHOUGH AUTHORITIES MAY DIFFER ON EXACTLY WHICH NATIONS POSSESS CHEMICAL OR BIOLOGICAL WEAPONS AND THE ABILITY TO EMPLOY THEM ON THE BATTLEFIELD, THERE IS GENERAL AGREEMENT AMONG THE U.S. AND ITS MAJOR WESTERN ALLIES THAT THE THREAT IS GROWING. ACCORDING TO THE DEFENSE INTELLIGENCE AGENCY, THE NUMBER OF COUNTRIES CONFIRMED OR SUSPECTED OF HAVING OFFENSIVE CHEMICAL WEAPONS PROGRAMS IS ROUGHLY DOUBLE THE FIGURE OF 10 YEARS AGO AND TRIPLE THAT OF 20 YEARS AGO, AND THE NUMBER OF COUNTRIES KNOWN OR SUSPECTED OF

HAVING OFFENSIVE BIOLOGICAL WEAPONS PROGRAMS HAS TRIPLED SINCE THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION WAS SIGNED IN 1972.

ESSENTIAL ELEMENTS OF THE CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM CONTINUE TO RECEIVE EMPHASIS WITHIN THE CONTEXT OF OUR NATIONAL MILITARY STRATEGY. ELEMENTS OF A STRONG CHEMICAL/BIOLOGICAL DEFENSE PROGRAM INCLUDE: A ROBUST TECHNOLOGY BASE TO EXPLORE "HIGH LEVERAGE" TECHNOLOGY THRUSTS AREAS AND CONTINUED EMPHASIS ON RESEARCH, DEVELOPMENT, TESTING AND EVALUATION TO PROVIDE OUR FORCES IMPROVED CHEMICAL/BIOLOGICAL DEFENSE EQUIPMENT FOR DETECTION, IDENTIFICATION AND WARNING; INDIVIDUAL, MEDICAL AND COLLECTIVE PROTECTION; AND DECONTAMINATION. IN ADDITION, ADEQUATE PROCUREMENT FUNDING IS REQUIRED TO EQUIP OUR FORCES WITH NEW/IMPROVED EQUIPMENT.

ARMS CONTROL EFFORTS AND A STRONG CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM ARE KEYS TO REDUCING THE THREAT POSED BY CHEMICAL AND BIOLOGICAL WEAPONS AND DETERRING THEIR USE. THE DEPARTMENT IS INCREASING THE LEVEL OF EFFORT IN THIS AREA WITH THE GOAL OF DENYING A SIGNIFICANT MILITARY ADVANTAGE TO ANY AGGRESSOR WHO MAY CONTEMPLATE USING CHEMICAL OR BIOLOGICAL WEAPONS AGAINST OUR FORCES. OUR CHEMICAL AND BIOLOGICAL DEFENSE CAPABILITY MUST BE SUFFICIENT TO CONVINCE ADVERSARIES OF THE HIGH RISK OF FAILURE ASSOCIATED WITH THE USE OF CHEMICAL AND BIOLOGICAL WEAPONS.

PROGRAM OVERVIEW

THE FY95 CHEMICAL/BIOLOGICAL DEFENSE, U.S. CHEMICAL DEMILITARIZATION, AND CHEMICAL WEAPONS TREATY VERIFICATION RESEARCH PROGRAMS BUILD ON PROGRAMS CONGRESS HAS SUPPORTED IN THE PAST. THE DEPARTMENT CONTINUES TO AIM TOWARD A STRONG, BALANCED, AND INTEGRATED CHEMICAL/BIOLOGICAL DEFENSE PROGRAM CAPABLE OF PROTECTING OUR FORCES UNDER ALL CONDITIONS OF DEPLOYMENT. CONCURRENT WITH THESE DEFENSIVE MEASURES, WE ARE PROCEEDING TOWARDS DESTRUCTION OF OUR STOCKPILE OF CHEMICAL AGENTS AND MUNITIONS. THE UNITED STATES, SIGNED THE CHEMICAL WEAPONS CONVENTION (CWC) IN JANUARY 1993, AND WE WILL BE READY FOR ENTRY INTO FORCE IN JANUARY 1995. CHEMICAL AND BIOLOGICAL WEAPONS ARMS CONTROL AGREEMENTS CONTINUE TO BE A MAJOR POLICY INTEREST. THE CHEMICAL WEAPONS TREATY VERIFICATION RESEARCH AND DEVELOPMENT PROGRAM, DIRECTED BY CONGRESS IN 1989, IS A MAJOR CONTRIBUTOR TO THAT AREA. IN ADDITION TO THE CWC, WE ARE ALSO MAKING PREPARATIONS FOR DEPARTMENT OF DEFENSE COMPLIANCE WITH PROVISIONS OF THREE BILATERAL AGREEMENTS WITH RUSSIA.

OUR FY95 BUDGET REQUEST FOR CHEMICAL/BIOLOGICAL DEFENSE, CHEMICAL DEMILITARIZATION AND CHEMICAL TREATY VERIFICATION ACTIVITIES IS ABOUT $1.4 BILLION. THIRTY-FIVE PERCENT IS FOR CHEMICAL/BIOLOGICAL DEFENSE, APPROXIMATELY FIFTY-NINE PERCENT IS FOR CHEMICAL DEMILITARIZATION AND ABOUT SIX PERCENT IS FOR CHEMICAL TREATY ACTIVITIES.

DOD CHEMICAL/BIOLOGICAL DEFENSE PROGRAM

SINCE THE MID 1980S, OUR BUDGET FOR CHEMICAL/BIOLOGICAL DEFENSE HAS BEEN IN THE $500-600 MILLION PER YEAR RANGE, OR ABOUT 1/5 OF ONE PERCENT OF THE TOTAL DEFENSE BUDGET. IT REPRESENTS AN INEXPENSIVE INSURANCE POLICY FOR OUR FORCES. THE DEPARTMENT'S FY95 REQUEST FOR CHEMICAL/BIOLOGICAL DEFENSE IS APPROXIMATELY $506 MILLION, LESS THAN ONE-FIFTH OF ONE PERCENT OF THE TOTAL DOD BUDGET. THESE RESOURCES SUPPORT CONTINUED RESEARCH, DEVELOPMENT, TESTING, EVALUATION AND PROCUREMENT OF CHEMICAL/BIOLOGICAL DEFENSE SYSTEMS WHICH WILL PROVIDE ADEQUATE PROTECTION TO OUR FORCES WITH THE SMALLEST POSSIBLE ADVERSE IMPACT ON WARFIGHTING CAPABILITY. A MAJOR AREA OF INTEREST WHICH CONTINUES TO RECEIVE INCREASED EMPHASIS IS DEFENSES AGAINST BIOLOGICAL WARFARE AGENTS. CREDIBLE ANALYSES INDICATE THAT OPTIMAL EMPLOYMENT OF BIOLOGICAL AGENTS COULD RESULT IN LARGE HAZARD AREAS, MUCH LARGER THAN WITH CHEMICAL AGENTS.

DURING THE PAST YEAR, THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY APPROVED THE FORMATION OF A JOINT PROGRAM OFFICE (JPO) FOR BIOLOGICAL DEFENSE. THE JPO, LEAD BY A BRIGADIER GENERAL OFFICER, PROVIDES INTENSE, CENTRALIZED MANAGEMENT OF ALL ASSIGNED DOD BIOLOGICAL DEFENSE INITIATIVES, INCLUDING VACCINE PRODUCTION AND BIOLOGICAL DETECTION EQUIPMENT. THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY AND THE DEFENSE ACQUISITION BOARD IS REVIEWING THE JPO'S PROGRESS AT SIX MONTH INTERVALS. MY DEPUTY FOR CHEMICAL/BIOLOGICAL MATTERS AND A JOINT GENERAL OFFICER STEERING GROUP IS PROVIDING ADDITIONAL OVERSIGHT.

TO SUPPORT THE JPO, WE HAVE CONSOLIDATED BIOLOGICAL DEFENSE BUDGET RESOURCES, IN A SEPARATE PROJECT ELEMENT (PE), ENTITLED THE JOINT BIOLOGICAL DEFENSE PROGRAM. THIS PE CONTAINS ALL BUDGETED RESOURCES (RDT&E, PROCUREMENT, O&M, AND MILCON), TO SUPPORT THE BIOLOGICAL DEFENSE PROGRAMS MANAGED BY THE JPO. OUR FY 95 SUBMISSION IS APPROXIMATELY $98M. THESE RESOURCES INCLUDE RDT&E AND PROCUREMENT DOLLARS TO FIELD A NON-DEVELOPMENTAL ITEM (NDI) VERSION OF THE BIOLOGICAL INTEGRATED DETECTION SYSTEM (BIDS), AN INTERIM THEATER LEVEL BIOLOGICAL DETECTION SYSTEM, BY FY96.

IN ANY REGION WHERE U.S. FORCES MAY DEPLOY, THE CHEMICAL AND BIOLOGICAL ENVIRONMENT WILL AFFECT JOINT OPERATIONS. OUR EFFORTS WILL THEREFORE MORE THAN EVER BEFORE STRESS JOINT APPROACHES IN CB DEFENSE OPERATIONS, TRAINING, DOCTRINE AND ACQUISITION. TO STRENGTHEN OUR OVERALL MANAGEMENT AND JOINT COORDINATION OF THE CB DEFENSE PROGRAM, WE ARE CURRENTLY DEVELOPING A PLAN TO IMPLEMENT SPECIFIC GUIDANCE CONTAINED IN THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FY 1994. ESSENTIALLY THE PUBLIC LAW DIRECTS THE DEPARTMENT OF DEFENSE TO DEVELOP A COORDINATED AND JOINTLY INTEGRATED PROGRAM, WITH A CONSOLIDATED DOD BUDGET FOR THE CB DEFENSE PROGRAM. A DETAILED REPORT ON IMPROVED MANAGEMENT

AND EXECUTION OF THE CB DEFENSE PROGRAM WILL BE SUBMITTED TO CONGRESS BY 1 MAY 1994.

OUR CB DEFENSE PROGRAM PRIORITIES ARE: (1) FIELDING RAPID DETECTION, EARLY WARNING, AND RELIABLE IDENTIFICATION SYSTEMS TO ENSURE AVOIDANCE OF CONTAMINATION FROM CHEMICAL/BIOLOGICAL AGENTS; (2) THE DEVELOPMENT AND PRODUCTION OF NEEDED VACCINES; (3) MORE EFFECTIVE TOOLS AND INPUTS TO ASSESS BATTLEFIELD RISKS CAUSED BY CHEMICAL AND BIOLOGICAL HAZARDS; AND (4) INCREASED EMPHASIS ON INDIVIDUAL AND UNIT OPERATIONAL CHEMICAL AND BIOLOGICAL DEFENSE TRAINING.

IN THE LARGER COMPOSITE OF TOTAL CHEMICAL/BIOLOGICAL DEFENSE, INTELLIGENCE COLLECTION AND ANALYSIS ARE VITAL, PERHAPS ARGUABLY THE MOST CRITICAL ELEMENT IN CHEMICAL/BIOLOGICAL DEFENSE READINESS. SALIENT CONSIDERATIONS INCLUDE:

- THE CHEMICAL WEAPONS CONVENTION WILL OPERATE WITH AN INTERNATIONAL INSPECTORATE WHICH WILL ACT ON CHALLENGES OF SUSPECTED TREATY VIOLATIONS RAISED BY MEMBER STATES. INTELLIGENCE WILL FORM THE BASIS OF MOST OF THOSE CHALLENGES.

- FOR AT LEAST THE NEXT DECADE MUCH OF CHEMICAL/BIOLOGICAL DEFENSE DEVELOPMENT MUST BE TARGETED TOWARD SPECIFIC THREAT AGENTS. DETECTION AND VACCINE DEVELOPMENT ARE OBVIOUS EXAMPLES, NECESSITATING PRECISE INTELLIGENCE.

- THE TECHNICAL NATURE OF CHEMICAL/BIOLOGICAL WARFARE INTELLIGENCE PRECLUDES RAPID RAMP-UP IN THIS TYPE OF ACTIVITY, SO THAT REDUCTIONS IN EMPHASIS CAN BE REVERSED ONLY OVER A PERIOD OF YEARS.

REGIONAL INSTABILITY AND CHEMICAL AND BIOLOGICAL PROLIFERATION ARE LINKED. WE CANNOT AFFORD TO NEGLECT THE IMPACT OF CHEMICAL AND BIOLOGICAL PROLIFERATION. CONTINUED EMPHASIS ON INTELLIGENCE COLLECTION AND ANALYSIS WILL BE KEY TO DEFINING THESE PROLIFERATION THREATS.

CHEMICAL DEMILITARIZATION

THE DESTRUCTION OF THE UNITED STATES CHEMICAL STOCKPILE IS A HIGH PRIORITY DEPARTMENT OF DEFENSE PROGRAM. IN THIS COMPLEX PROGRAM, THE CONGRESS AND THE DEPARTMENT OF DEFENSE SHARE A COMMON GOAL: THE SAFE, EXPEDITIOUS, AND ENVIRONMENTALLY SOUND DESTRUCTION OF OUR STOCKPILE OF CHEMICAL WEAPONS.

WE ARE THE ONLY NATION WHICH HAS DEVELOPED AND DEMONSTRATED A TECHNOLOGY TO SAFELY DESTROY LARGE QUANTITIES OF CHEMICAL

WEAPONS. FUNDS REQUESTED IN THE FY95 BUDGET WILL SUPPORT THE FOLLOWING MAJOR PROGRAM ACTIVITIES: CONTINUATION OF DISPOSAL OPERATIONS AT THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM; COMPLETION OF TESTING AT TOOELE; COMMENCEMENT OF DISPOSAL OPERATIONS AT THE TOOELE CHEMICAL AGENT DISPOSAL FACILITY; CONSTRUCTION ACTIVITIES AND MUNITIONS RECONFIGURATION OPERATIONS AT THE ANNISTON CHEMICAL AGENT DISPOSAL FACILITY; AWARD OF CONTRACTS FOR CONSTRUCTION OF THE UMATILLA CHEMICAL AGENT DISPOSAL FACILITY AND PINE BLUFF CHEMICAL AGENT DISPOSAL FACILITY; AND ISSUE REQUEST FOR PROPOSALS FOR PUEBLO CHEMICAL AGENT DISPOSAL FACILITY. DESIGN AND ENVIRONMENTAL ACTIVITIES WILL BE ONGOING FOR BLUE-GRASS CHEMICAL AGENT DISPOSAL FACILITY AND ABERDEEN CHEMICAL AGENT DISPOSAL FACILITY. ENVIRONMENTAL ACTIVITIES FOR THE NEWPORT CHEMICAL AGENT DISPOSAL FACILITY WILL CONTINUE DURING THIS YEAR AS WILL THE EMERGENCY PREPAREDNESS PROGRAM. ONGOING SELECTION TESTING AND ACQUISITION OF MATERIEL AND EQUIPMENT IN SUPPORT OF NON-STOCKPILE OPERATIONS WILL CONTINUE.

WE HAVE RECENTLY RECEIVED FROM THE NATIONAL ACADEMY OF SCIENCES THE MUCH ANTICIPATED REPORT ON ALTERNATE TECHNOLOGY. CITIZENS AT U.S. DISPOSAL SITES EXPRESSED CONCERN OVER THE SAFETY OF INCINERATING OUR STOCKPILE. I VIEW SAFETY AS MY NUMBER ONE CONSIDERATION. TO THIS END, I AM SATISFIED, AND THE NATIONAL RESEARCH COUNCIL HAS CONCLUDED, THAT OUR BASELINE APPROACH IS A SAFE AND EFFECTIVE TECHNOLOGY FOR DESTROYING CHEMICAL WEAPONS. THE NATIONAL RESEARCH COUNCIL ALSO CONCLUDED THAT THE RISKS OF CONTINUED STORAGE OUTWEIGH THE POTENTIAL RISKS OF PROCEEDING WITH THE BASELINE DESTRUCTION PROGRAM. ACCORDINGLY, THE NATIONAL RESEARCH COUNCIL RECOMMENDED THAT WE PROCEED EXPEDIOUSLY WITH THE CURRENT DISPOSAL PLAN WHILE ALSO EXAMINING SEVERAL NEUTRALIZATION-BASED ALTERNATIVE TECHNOLOGIES FOR THE LOW-VOLUME SITES. IN ITS RECENT REPORT TO CONGRESS, THE ARMY HAS ENDORSED MANY OF THE NATIONAL RESEARCH COUNCIL'S CONCLUSIONS AND RECOMMENDATIONS, INCLUDING PROPOSING AN AGGRESSIVE RESEARCH AND DEVELOPMENT EFFORT ON TWO OF THE NEUTRALIZATION-BASED TECHNOLOGIES RECOMMENDED BY THE NATIONAL RESEARCH COUNCIL.

I AM BECOMING INCREASINGLY CONCERNED WITH THE POTENTIAL OF A PROBLEM WITH THE M55 CHEMICAL ROCKETS. THE ARMY'S ASSESSMENT AND OTHER INDEPENDENT REVIEWS LEAD ME TO BELIEVE THAT TIME IS BECOMING A KEY FACTOR IN THE DESTRUCTION PROGRAM. AS PART OF THE FY95 PROGRAM WE WILL DEVELOP OUR RECOMMENDATIONS AND RISK ASSESSMENT ON THIS POTENTIAL PROBLEM.

AS YOU ARE AWARE, THE UNITED STATES AND RUSSIAN FEDERATION HAVE SIGNED AN AGREEMENT FOR JOINT COOPERATION IN THE SAFE, SECURE, AND ENVIRONMENTALLY SOUND DESTRUCTION OF THE FORMER SOVIET UNION'S STOCKPILE OF CHEMICAL WEAPONS. THE AGREEMENT HAS PROVISIONS FOR ASSISTING THE RUSSIANS IN DEVELOPING A NATIONAL DESTRUCTION PLAN; HOSTING RUSSIAN INTERNS IN U.S. DESTRUCTION FACILITIES; PROVIDING U.S. SAFETY AND ENVIRONMENTAL TECHNOLOGY

AND EQUIPMENT; TECHNICAL VISITS BY KEY RUSSIAN OFFICIALS TO INCLUDE DEMONSTRATIONS; AND TRAINING OF KEY PERSONNEL.

THE JOINT U.S./RUSSIAN CHEMICAL WEAPONS DESTRUCTION PLAN, INCLUDES A NUMBER OF CRITICAL TASKS. THE RUSSIAN, U.S. GOVERNMENT AND CONTRACTOR TEAM WILL DEVELOP DESIGN CRITERIA FOR CHEMICAL WEAPON DESTRUCTION FACILITIES AND PROCESSES, PERFORM DESTRUCTION SITE CHARACTERIZATION STUDIES, AND PREPARE AN EMERGENCY RESPONSE PREPAREDNESS PLAN. ADDITIONALLY, THE WORK PLAN ENVISIONS LIMITED FEASIBILITY TESTING AND EVALUATION OF CANDIDATE DESTRUCTION TECHNOLOGIES AND PROCESSES, AS WELL AS CONCEPTUAL DESIGNS FOR A PILOT PLANT FOR DESTROYING NERVE AGENT MUNITIONS. WHEN COMPLETED, THE PLAN WILL RESULT IN A COMPREHENSIVE RUSSIAN FEDERATION CW DESTRUCTION IMPLEMENTATION PROGRAM.

THE DEPARTMENT HAS ALSO AGREED TO ADD $30 MILLION OF ASSISTANCE FOR CW DESTRUCTION TO THE $25 MILLION PREVIOUSLY COMMITTED IN JULY OF 1992. THIS MONEY WILL EQUIP A MODERN CENTRALLY-LOCATED CW DESTRUCTION ANALYTICAL LABORATORY IN RUSSIA. THE LABORATORY IS ESSENTIAL IN DEVELOPING ANALYTICAL METHODS AND QUALITY CONTROL MEASURES, IN CONDUCTING ENVIRONMENTAL BASELINE STUDIES, AND IN TRAINING SCIENTISTS AND TECHNICIANS. THE LAB WILL SET AND MAINTAIN ECOLOGICALLY SAFE AND SOUND STANDARDS FOR EACH DESTRUCTION SITE. THE U.S. HAS FURTHER AGREED TO CONSIDER APPROPRIATE ADDITIONAL MEASURES TO SUPPORT RUSSIA'S CW DESTRUCTION PROGRAM.

CHEMICAL WEAPONS TREATY SUPPORT

WE ARE PLANNING AND WILL BE PREPARED FOR ENTRY INTO FORCE (EIF) OF THE CHEMICAL WEAPONS CONVENTION (CWC) IN JANUARY 1995. THE CWC PREPARATORY COMMISSION (PREPCOM) IN THE HAGUE IS NOW DEVELOPING ORGANIZATIONAL STRUCTURE AND PROCEDURES FOR THE ORGANIZATION FOR THE PROHIBITION OF CHEMICAL WEAPONS (OPCW) WHICH WILL OVERSEE WORLDWIDE IMPLEMENTATION OF THE CWC. WE HAVE EVERY REASON TO BELIEVE THAT THE OPCW WILL BE SUCCESSFUL AND WE WILL BE PREPARED TO IMPLEMENT THE CHEMICAL WEAPONS CONVENTION WHEN IT ENTERS INTO FORCE.

THE US SENATE IS NOW CONSIDERING THE CWC FOR RATIFICATION. DOD WILL SUPPORT THE CWC RATIFICATION PROCESS AS WE HAVE HISTORICALLY SUPPORTED THE NEGOTIATION OF THIS SIGNIFICANT DOCUMENT.

TO DATE, DOD TECHNICAL SUPPORT FOR THE CWC HAS BEEN PRIMARILY FOCUSED UPON VERIFICATION TECHNOLOGY RESEARCH AND DEVELOPMENT, WHICH WILL CONTINUE IN COMING YEARS. IN ADDITION, WE ACTIVELY SUPPORT THE CWC PREPCOM THROUGH THE PROVISION OF TECHNICAL EXPERTS TO PARTICIPATE IN WORKING GROUP DISCUSSIONS AND TO MAKE THE RESULTS OF OUR RESEARCH AND DEVELOPMENT EFFORTS KNOWN TO THE DELEGATIONS AT THE PREPCOM. WE WILL SIMILARLY SUPPORT THE

US DELEGATION TO THE OPCW FOLLOWING EIF OF THE CWC.

IN JANUARY 1994, WE COMPLETED PROTOCOLS FOR IMPLEMENTATION OF PHASE II OF THE WYOMING MEMORANDUM OF UNDERSTANDING (MOU), A CHEMICAL WEAPONS (CW) BILATERAL VERIFICATION EXPERIMENT WITH THE RUSSIANS. THE WYOMING MOU WILL INVOLVE THE EXCHANGE OF DETAILED CW DATA AND THE CONDUCT OF A NUMBER OF INTRUSIVE INSPECTIONS ON EACH SIDE TO VERIFY THE ACCURACY OF THE DATA EXCHANGED. WE EXPECT TO COMPLETE THESE INSPECTIONS LATER THIS YEAR.

ANOTHER CW ACTIVITY WITH THE RUSSIANS IS THE BILATERAL AGREEMENT ON THE DESTRUCTION AND NON-PRODUCTION OF CW, WHICH WAS SIGNED IN 1990. THIS AGREEMENT REQUIRES MUTUAL DESTRUCTION OF CW STOCKPILES OVER A TEN-YEAR PERIOD, ALONG WITH CONTINUOUS MONITORING OF THE DESTRUCTION PROCESS. THERE ARE ALSO PROVISIONS FOR PERIODIC INSPECTIONS OF BOTH CW STORAGE AND FORMER CW PRODUCTION FACILITIES ON BOTH SIDES TO ENSURE THAT STOCKPILES ARE BEING DESTROYED.

DOD WILL ALSO CONTINUE TO SUPPORT THE BIOLOGICAL WEAPONS CONVENTION (BWC) AS INTERNATIONAL EFFORTS PROCEED TO STRENGTHEN THIS KEY DOCUMENT. OUR SUPPORT WILL INCLUDE EVALUATION AND TECHNICAL ASSESSMENT OF PROPOSED TRANSPARENCY MEASURES DEVELOPED BY NEGOTIATIONS EXPERTS TO ENSURE THAT THEY ARE CONSISTENT WITH THE PRESIDENT'S OVERALL CHEMICAL AND BIOLOGICAL NON-PROLIFERATION POLICY.

SUMMARY

AS THE SPECIAL INQUIRY INTO THE CHEMICAL AND BIOLOGICAL THREAT BY THE HOUSE ARMED SERVICES COMMITTEE HIGHLIGHTED IN THEIR REPORT, RECENT WORLD EVENTS HAVE FOCUSED INTEREST ON THE POSSIBILITY AND POTENTIAL FOR CHEMICAL/BIOLOGICAL WARFARE. SUCCESS IN ARMS CONTROL INITIATIVES WILL NOT ELIMINATE THE NEED FOR EFFECTIVE CHEMICAL/BIOLOGICAL DEFENSIVE TRAINING AND IMPROVED EQUIPMENT. RESEARCH AND DEVELOPMENT PROGRAMS MUST ENSURE SURVIVABILITY OF OUR FORCES AGAINST CHEMICAL AND BIOLOGICAL THREAT AGENTS THAT MAY BE USED IN DIFFERENT REGIONS OF THE WORLD. IN FACT, THE BWC AND THE CWC SPECIFICALLY PROVIDE FOR THE MAINTENANCE OF DEFENSIVE PROGRAMS. A STRONG CHEMICAL/BIOLOGICAL DEFENSIVE CAPABILITY REDUCES THE PROBABILITY OF BECOMING INVOLVED IN A CHEMICAL OR BIOLOGICAL WAR BY REDUCING POTENTIAL ADVANTAGES OF THE USE OF THESE WEAPONS AGAINST OUR FORCES. OUR EFFORTS IN DEVELOPING A SAFE, SECURE, ECOLOGICALLY SOUND CHEMICAL WEAPONS DESTRUCTION PROGRAM, HAS GIVEN THE U.S. WORLD LEADERSHIP IN THIS COMPLEX PROBLEM. I APPRECIATE THE STRONG SUPPORT AND INTEREST OF THIS COMMITTEE IN OUR CHEMICAL AND BIOLOGICAL DEFENSE, CHEMICAL DEMILITARIZATION AND CW ARMS CONTROL PROGRAMS.

Mr. MURTHA. Mr. Walker, do you have a statement?

SUMMARY STATEMENT OF MR. WALKER

Mr. WALKER. I have a brief statement, Mr. Chairman.

If you will permit me a moment, Chairman Mahon hired me to be a junior assistant on this committee in 1971. At that time John Plashal and I were sharing an office on the third floor of the Rayburn building.

Mr. Chairman, on February 4, the Army did receive the National Research Council's report. As Dr. Smith indicated, the report states that delays in the disposal program pose a greater risk than proceeding with the program. And the NRC did conclude the baseline program is safe and effective for disposal.

The Army, as the Department of Defense executive agent, concurs with the NRC's findings. And, Mr. Chairman, in parallel with the current program, with going forward with the disposal program, the Army is going to implement an aggressive research and development program on the two most promising technologies: stand-alone neutralization and neutralization followed by biodegradation.

The Army will not merely go through the motions. This is a real and honest effort to establish the viability of alternative technologies which could be available for the two low-bulk sites if we find later that that is required.

Mr. Chairman, we have substantially embraced the NRC's recommendations. I believe the NRC report has led the Army toward improvements and enhancements which should alleviate many of the concerns of many of the program opponents.

We have now had an independent and unbiased assessment by the NRC. The NRC has concluded that the baseline programs should be continued, with certain enhancements, which Dr. Smith indicated, and which we will implement. So we believe and we hope the Nation can now get on with the work that must be done.

As Dr. Smith also indicated, we are developing and validating a new revised life-cycle cost estimate. That cost estimate will be available in September, and we will make that available to the committee. But I will say, Mr. Chairman, we are going to stick and maintain the 2003 program completion date in our revised schedule, in accordance with congressional law and in accordance with administration policy.

The President is committed to the earliest possible ratification and entry into force of the CWC convention. And the Army can do that, Mr. Chairman. We can meet those time lines with the present technology.

Mr. Chairman, I just want to assure the committee that as the new Assistant Secretary, the first and foremost priority of this program is safety; safety of disposal operations, safety of the workers, and safety of the citizens living and working near the chemical weapons disposal facilities.

To achieve these objectives we are going to engage in a partnership with the Congress, with the various State and local officials, and especially with the public.

Mr. Chairman, the leadership in the Army is committed to doing this job safely and efficiently. To demonstrate that commitment, Secretary West and I visited Johnston Island last week. The Under Secretary visited Johnston Island a few weeks ago. So we are committed to gaining and holding the trust of this committee and of the public. We are going to conduct this program in the sunshine.

And together we think we can reach our common goal of chemical disarmament.

I look forward to your questions, Mr. Chairman.

[The biography and statement of Mr. Walker follow:]

RECORD VERSION

STATEMENT BY

MR. ROBERT M. WALKER

ASSISTANT SECRETARY OF THE ARMY

(INSTALLATIONS, LOGISTICS AND ENVIRONMENT)

BEFORE

SUBCOMMITTEE ON DEFENSE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

Second Session, 103rd Congress

CHEMICAL DEMILITARIZATION PROGRAM

APRIL 21, 1994

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
HOUSE APPROPRIATIONS
COMMITTEE

ROBERT M. (MIKE) WALKER

Robert M. (Mike) Walker became the Assistant Secretary of the Army (Installations, Logistics and Environment) when he was sworn-in on March 23, 1994. In this capacity, Mr. Walker is directly responsible for carrying out the Army Secretariat responsibilities of oversight, policy development, and coordination in the areas of installations, housing, logistics, transportation, environment, safety, occupational health, commercial activities, installation management & program analysis, and chemical demilitarization.

Mr. Walker began his career on Capitol Hill as a page in the House of Representatives in the mid-1960's. After attending the University of Tennessee in Knoxville from 1966 to 1968, Mr. Walker returned to Washington in 1969 as an assistant to the late Tennessee Congressman Joe L. Evins. Mr. Walker served with Congressman Evins in various capacities until 1976 when Congressman Evins retired. In the early 1970's, Mr. Walker served as a budget analyst on the Congressman's Subcommittee on Public Works Appropriations, where he reviewed annual budget requests for the Army Corps of Engineers Civil Works Program.

During the last decade, Mr. Walker has staffed Senate task forces on Central America and the Persian Gulf. In addition, he has served as a military affairs advisor to several Senate delegations to the former Yugoslavia, Eastern Europe, and Asia.

From 1979 to March 1994, Mr. Walker served as majority Clerk (Staff Director), Subcommittee on Military Construction Appropriations.

Mr. Walker served in the Tennessee and District of Columbia Army National Guard from 1969 to 1975. He is a member of the Society of American Military Engineers and the American Legion. He is a Baptist.

Mr. Walker is married to the former Romy Pettersen of Arlington, Virginia. The Walkers make their home near Charles Town, West Virginia. Mr. Walker is the son of Dorothy Walker, editor emeritus of the Smithville, Tennessee, Review. He was born on September 14, 1948 in Martin, Tennessee.

7 April 1994

Mr. Chairman and Members of the Committee, it is a pleasure for me to appear before this subcommittee to discuss the Defense Department's Chemical Stockpile Disposal Program (CSDP). I look forward in my new position as the Assistant Secretary of the Army (Installations, Logistics and Environment) to working with this Committee which has had such a profound and positive role in assisting the Department of the Army in its goal of being the world's leader in the disposal of chemical weaponry. With me today is Brigadier General Walter L. Busbee, the Commander and Director of the U.S. Army Chemical Materiel Destruction Agency (USACMDA). We are pleased to have this opportunity to provide you with the detailed information on the status of the activities of the program and to answer any questions you may have.

Nearly a decade has passed since 1985 when the Army requested and Congress approved funding for the construction of the first M55 rocket disposal facility at Johnston Island. Subsequently, in late 1985, Public Law 99-145 (50 U.S.C.§1521) resulted in the termination of the M55 rocket disposal program and the genesis of the CSDP. The scope and complexity of the program has evolved significantly as the Army faced the challenges of developing and improving technology, from its pilot plant facility in Tooele, Utah--the Chemical Agent Munitions Disposal System (CAMDS)--to the first prototype, fully-integrated disposal plant at the Johnston Atoll Chemical Agent Disposal System (JACADS) in the Pacific. That process has proven to be successful, even though not all of the objectives and goals established for JACADS were met. Most important though is the safety and environmental compliance record of achievement demonstrated during three years of operational testing under rigorous independent evaluation. Only recently, after almost four years of operation, did JACADS experience its first environmental non-compliance; and that occurred while the plant was shutdown for periodic maintenance. The operational experience gained at JACADS, the world's only integrated chemical weapons (CW) disposal facility, has proven invaluable. Many "lessons learned" have emerged from this pioneering disposal plant, which will be used to enhance the environmental compliance, safety and operational efficiency of the continental United States (CONUS) destruction plants.

The year of 1994 will be a period of major transitions for the CSDP and the other chemical disposal and remediation efforts managed by the USACMDA. Operational Verification Testing (OVT) has been completed at JACADS and that facility has begun full-scale destruction operations. Construction of the first disposal facility in CONUS at Tooele, Utah was completed in July 1993 and an 18-month systemization program (i.e., integrated, simulant testing) began following JACADS OVT certification in late August 1993. The Tooele facility is on a rigorous prove-out path leading to initial agent disposal operations in early calendar year 1995. The Chemical Demilitarization Training Facility (CDTF) at Aberdeen, Maryland became fully operational in 1993 and is supporting training of replacement workers for JACADS as well as new laboratory and operational personnel for the Tooele Chemical Disposal Facility (TOCDF). The initial scope of effort for the Non-Stockpile Chemical Materiel (NSCM) Program was defined in 1993, as directed by Congress. This year the Army will focus on development of a comprehensive program plan to deal with the [DELETED: entire range of] NSCM efforts to support the Chemical Weapons Convention (CWC) destruction mandates, as well as an assessment and detailed plans for the ultimate remediation of suspect or potential chemical warfare materiel (CWM) burial sites which may pose a long-term environmental risk. Finally, the Army's support to the Department of Defense Cooperative Threat Reduction (CTR) program, in the chemical weapons arena, will experience increased activity in 1994 with a focus on technical assistance to the fledgling CW destruction program in the Russian Federation.

Additionally, on April 12, 1994, we submitted the Army's Alternative Technology Report to Congress, as required by Public Law 102-484, the National Defense Authorization Act for Fiscal Year 1993. This legislation directed the Secretary of the Army to report to Congress on potential alternatives to the Army's baseline disassembly and incineration process for the disposal of lethal chemical agents and munitions. Further, it requires the Army to implement an alternative technology at three low-volume sites (Newport Army Ammunition Plant, Indiana; Aberdeen Proving Ground, Maryland; and Blue Grass Army Depot, Kentucky) if demilitarization operations at that site can be completed by December 31, 2004, and if the proposed alternative technology is determined to be significantly safer and equally or more cost-effective than the baseline process. Timely review of the Army's report by Congress will be required in order to maintain the current CSDP schedule, which currently envisions award of the contract for the construction of the Anniston Chemical Disposal Facility (ANCDF) in September 1994.

STATUS OF THE CHEMICAL STOCKPILE DISPOSAL PROGRAM (CSDP) AND ALTERNATIVE TECHNOLOGIES

Since the Army last appeared before this committee in May 1993, the following major milestones have occurred in the Chemical Demilitarization Program. In August 1993, the Secretary of Defense provided to Congress certification of the successful completion of Operational Verification Testing (OVT) at the Johnston Atoll Chemical Agent Disposal System (JACADS) in the Pacific. Final OVT reports were published by MITRE Corporation and were used as the basis for the Secretary of Defense certification, thus allowing the systemization process to begin at the Tooele Chemical Agent Disposal Facility (TOCDF) in Utah. Operational changes (identified as findings by the independent evaluator, the MITRE Corporation, and the National Research Council (NRC) of the National Academy of Sciences in their continuing oversight role) are being incorporated at JACADS and the Tooele facility and in the designs of future disposal plants.

Construction of the TOCDF was completed in July 1993. Following the Secretary of Defense certification of the successful completion of OVT on JACADS, systemization (which is the prove-out phase of the plant using simulant munitions and surrogate materials) was initiated in August 1993. The systemization testing program at Tooele will incorporate all of the lessons learned from the Johnston Island facility and all of the recommendations for improved process monitoring and controls that emanated from several NRC letter reports issued during the year. Current plans are to complete the systemization efforts early in calendar year 1995 with a target date of March 1995 to begin toxic agent operations at TOCDF. Tooele, the first disposal facility in the continental United States, is where 42 percent of the U.S. chemical weapons stockpile is stored. Currently, the Tooele facility is preparing to begin a series of Environmental Protection Agency (EPA) mandated and supervised trial burns using surrogate materials for the chemical agents in order to demonstrate the safety and environmental compliance of all the incinerators at the plant before actual chemical munitions can be introduced.

Additionally, at the Tooele Army Depot, facility construction and the renovation work to support the reconfiguration activity (separation of propellent from agent-loaded projectiles) for 105mm projectiles and 4.2 inch mortars were completed in February 1994. Reconfiguration activities, scheduled to begin in April 1994, will enhance safe storage of these munitions pending future disposal operations at that facility. This work is independent of any destruction technology. The MITRE Corporation performed an evaluation of the potential future uses of the Chemical Agent Munitions Disposal System, as delineated in section 176 of Public Law 102-484. This assessment was delivered to Congress on February 23, 1994.

As directed by Congress, the Army published an Interim Survey and Analysis Report, which projected the scope of the non-stockpile chemical materiel clean-up and destruction effort. The Final Survey and Analysis Report was released to Congress on November 23, 1993. The report included an initial rough-order-of-magnitude cost and schedule estimates for destroying non-stockpile chemical materiel. A number of studies and programmatic reports have also been developed for projects associated with the Non-Stockpile Chemical Materiel Program.

The Army submitted a special report to Congress in August 1993 on the physical and chemical integrity of the chemical weapons stockpile, as required by Section 177 of the National Defense Authorization Act for Fiscal Year 1993. Subsequent to the release of this report, the NRC has recommended that the Army reevaluate the conclusions of that report and develop additional data from testing of M55 rocket propellent in order to update and better quantify the risks associated with continued storage of munitions. This is particularly important with respect to M55 rockets, which are the most susceptible munitions in the stockpile to developing leaks or other problems which potentially could affect continued safe storage.

As you know, in November 1991, the Army commissioned the NRC to study alternative technologies to the baseline incineration system for use in the destruction of chemical agents and munitions. The NRC's Committee on Alternative Chemical Demilitarization Technologies completed their study and provided their report, in June 1993, to the NRC's Committee on Review and Evaluation of the U. S. Army Chemical Stockpile Disposal Program (Oversight Committee). That report, entitled "Alternative Technologies for the Destruction of Chemical Agents and Munitions," made no recommendations, but rather contained an assessment of the maturity of various technologies as well as their applicability to the Chemical Demilitarization Program. The Oversight Committee reviewed that 1993 report and provided a report to the Army and Congress, summarizing their conclusions and recommendations regarding alternative technologies as well as an assessment of the current baseline program.

The NRC report, "Recommendations for the Disposal of Chemical Agents and Munitions," endorsed the baseline incineration system as a safe and effective process for destroying the stockpile. The central theme of the report revolved around the concept that decisions must be made on the basis of total risk (i.e., storage risk, plus handling risk, plus disposal risk) on a site-by-site basis. The Army has endorsed that approach.

I can best summarize the report by stating that, in terms of the baseline program, the NRC had the following findings and/or recommendations:

- the baseline process, as currently constituted, is a safe and effective system for destroying the stockpile;

- updated risk analyses using current methodologies and the latest data should be accomplished for each site;

- the Army should institute a program to further evaluate the safety of the M55 rockets in terms of long-term storage, as well as develop additional information regarding potential pressurization of mustard-containing munitions;

- increased public outreach programs should be developed and implemented by the Army;

- consideration should be given to incorporation of charcoal filter systems on top of all filter stacks on a site-by-site basis; and

- separation of the individual components, i.e., agent, energetics and metal parts, should continue to be utilized in the Chemical Demilitarization Program.

Regarding alternative technologies, the report also recognized that there is public opposition to incinerators, as well as the fact that the laws governing incineration operations are rapidly changing. Based on these two premises, the NRC recommended that consideration be given by the Army to development of alternative technologies. Four basic alternative technologies were recommended by the NRC:

- neutralization plus incineration;

- neutralization plus wet air oxidation plus biological treatment;

- neutralization plus super-critical water oxidation; and

- neutralization plus biological treatment.

The NRC recommended that these efforts be done in parallel to reduce total development times and that piloting of the selected processes be done prior to incorporation of these technologies into a production-type facility.

Finally, the NRC concluded that evidence available today suggests that any reduction in disposal risk afforded by alternative technology will be more than offset by the larger cumulative risk from extended storage.

The Army has prepared a detailed assessment of the findings and recommendations of the NRC's alternative technology report, in accordance with Public Law 102-484. This public law requires the Secretary of the Army to submit a report to Congress addressing the alternative technologies and their possible use in the demilitarization program. This report, which provided the Army's evaluation of the NRC's recommendations and findings, was submitted to the Congress on April 12, 1994. The report provides the following:

- an assessment of the alternative technology committee report;

- an evaluation of the recommendations made by the NRC;

- for technologies recommended for use by the NRC, an assessment concerning the safety, environmental protection and cost effectiveness of the technologies and a schedule for possible implementation; and

- consideration of appropriate concerns expressed by the Citizens Advisory Commissions and the States where the chemical weapons are stored.

The Army's report endorses the concept of additional risk assessments, at a cost of $10 million; increased evaluation of the storage safety primarily centered around M55 rockets, at a cost of $5 million initially and $2 million annually thereafter; an increased public outreach program, at a cost of $2 million annually; and implementation of charcoal filters into incineration stack exhausts. The preliminary cost estimates for the charcoal filters, assuming all eight sites, would approach $260 million. The concept will be tested at the Tooele facility before incorporation into the baseline pollution abatement system at Anniston and future facilities.

In addition, the Army has recommended a two technology based research and development (R&D) program incorporating neutralization by itself and neutralization followed by biological treatment. The laboratory phase of this program is estimated at $43 million. If successful, it would be followed by a pilot plant phase at a cost of approximately $150 million. However, a decision will be made at the end of the laboratory trials, approximately two years in duration, to ensure that further work is warranted based on enhanced safety and other considerations, such as consistency with the

Chemical Weapons Convention's destruction deadlines and criteria for destruction.

It must be noted that Congress provided three criteria for the implementation of an alternative technology program. These criteria are that the alternative technology must be significantly safer, cost neutral, and capable of completing the stockpile destruction by the end of 2004. No alternative technology meets these criteria.

It is also important to note that per Congressional direction, the public has a 60-day window to provide inputs directly to Congress concerning the Army's report. You can be assured that the Army is sensitive to the public input and will consider them in developing our revised program.

JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM (JACADS) OPERATIONAL VERIFICATION TESTING (OVT) AND LESSONS LEARNED

During the entire OVT program of JACADS, the following quantities of munitions were successfully and safely destroyed: over 21,000 M55 rockets filled with nerve agent; 68 ton containers containing the blister agent mustard and 24,000 105mm projectiles containing the agent mustard. In all, over 170 tons of chemical agent were burned in the metal parts and deactivation furnaces and liquid incinerator. During that same timeframe, the Environmental Protection Agency (EPA) required trial burns on these furnaces were successfully completed. The three systems tested at JACADS during the OVT period all met or exceeded the established regulatory limits for emissions under the Toxic Substance Control Act (TSCA) and the Resource Conservation and Recovery Act (RCRA).

Following the formal end of the OVT period at JACADS, an additional 21,000 mustard-filled projectiles were destroyed. Additional work was done to ensure that the operational problems identified in the system during testing were resolved and demonstrated in the post-OVT period. The problems were related to agent draining and quantification; the amount of hazardous waste feed that could be fed to the metal parts furnace; and other related operational issues. During the summer of 1993, a decision was made to change out the deactivation furnace system at the Johnston Island facility to incorporate the more robust and rugged kiln design that is used in the CONUS plants. The deactivation furnace system kiln was changed from the 1/2 inch thick kiln, that was used during three of the four OVT campaigns, to a 2-inch thick kiln wall, which is identical to the system that has been procured and is now installed at the Tooele Facility.

Following agent changeover from blister agent (mustard) to nerve agent (GB) during the late summer and fall of 1993, the plant resumed destruction operations, beginning in early December with ton containers filled with the nerve agent GB. Following that campaign, which was completed in early January 1994, the plant transitioned once again to GB-filled M55 rockets. We plan to complete the destruction of all remaining M55 rockets on Johnston Island by the August 1994 timeframe. As of the date of this report, over 8,700 GB-filled M55 rockets have been successfully destroyed. Continuing refinements of the new deactivation furnace system will allow the plant to reach the objective through-put rates to complete the destruction of the remaining M55 rockets on Johnston Island. This will be a major milestone by eliminating the most hazardous munitions stored on Johnston Island.

On March 23, 1994, while the Liquid Incinerator was shut down and maintenance operations were being performed, a release of agent from the stack was monitored. The peak release reached approximately 1,036 parts per trillion versus the stack standard of 57 parts per trillion. The total release of agent over a 30 minute period approximated 0.0004 ounces. No agent was detected (or expected at this very low level) at any of the perimeter monitoring stations; and no adverse health or environmental effects resulted. A team was immediately dispatched to the island to investigate the cause of the incident. The cause has been attributed to procedural and operator errors; corrective actions are underway. It is important to note that the identical incident, if it had happened in CONUS, would not have resulted in agent emission because of design differences between the CONUS and JACADS facilities. The agent pathway does not exist in the Tooele Chemical Agent Disposal Facility.

There are additional ongoing/planned efforts which will be accomplished at JACADS during calendar year 1994: the upgraded dunnage incinerator (the last of the four installed incinerators at Johnston Island) is scheduled to go through its required trial burn with EPA supervision in the summer of 1994. Significant improvements have been made to the system, which is essentially a commercial item that was adapted to the baseline incineration process. Also, the facility is currently testing an enhanced monitoring system with more sophisticated gas chromograph/mass spectrometer. This new system has been installed in the JACADS laboratory in response to NRC's report and recommendations for enhanced monitoring and analytical capability for both agent related compounds and constituents that may be generated during start-up and shutdown of the furnaces.

The remainder of calendar year 1994 will see continuing ramp-up to full-scale disposal operations. Current plans call for the beginning of bomb disposal operations in the latter half of calendar year 1994 at JACADS. The Program Manager for Chemical Demilitarization continues to collect operational data and lessons learned from the JACADS facility to ensure that the improvements and methods that have been developed at JACADS are incorporated into the Tooele Chemical Agent Disposal Facility at Tooele, Utah and future disposal facilities. A report has been prepared to document the cost of implementing JACADS OVT lessons-learned.

ENVIRONMENTAL REQUIREMENTS AND PUBLIC OUTREACH

In October 1993, the Federal Facilities Compliance Act became law. This law allows state environmental agencies to impose fees and fines against federal facilities, including chemical agent disposal facilities, for violations of the Resource Conservation and Recovery Act. The law also requires the Environmental Protection Agency (EPA) to define which munitions, to include chemical munitions, are to be classified as hazardous waste. The EPA, with input from DOD, is currently developing a policy to meet this requirement, which could affect storage requirements of the chemical stockpile.

National Environmental Policy Act (NEPA) activities continue to play a pivotal role in ensuring continued public involvement in proposed disposal operations. Release of the final Environmental Impact Statement (EIS) for Umatilla Depot Activity and the draft EIS for Pine Bluff Arsenal were delayed pending completion of the alternative technologies study. The Phase I Environmental Report for Pueblo Depot Activity was revised to include updated meteorological information. Release of the final Phase I Environmental Report was delayed pending receipt of information from the alternative technologies study.

Congressional direction suspended all work on the low-volume sites (Aberdeen Proving Ground, Newport Army Ammunition Plant, and Blue Grass Army Depot) pending the outcome of the alternative technologies study. The Army is prepared to resume its work on the NEPA process to mitigate further delays.

The following is a synopsis of environmental permitting and issues:

- *Anniston Army Depot, Alabama:* In January 1993, revisions to the RCRA and Clean Air Act (CAA) permit applications for the Anniston Chemical Agent Disposal Facility were submitted to the Alabama Department of Environmental Management (ADEM). These revisions reflect the latest design changes and provide additional information requested by the State. In February 1994, ADEM provided the latest round of Notice of Deficiencies for the RCRA and CAA permit applications. The Army responded within 30 days, as required, and is prepared to follow up with additional information, as needed, to complete the long delayed permitting process. The ADEM has informed USACMDA that it will not publish draft permits for public review and comment until the Congress has reviewed both the NRC's alternative technologies study and the Army's subsequent assessment report.

- *Pine Bluff Arsenal (PBA), Arkansas:* Work continued on updating the Pine Bluff Chemical Agent Disposal Facility permit applications. In February 1993, the Arkansas Department of Pollution Control and Ecology, implementing revised EPA guidelines and design, required major changes to the CAA permit application and air quality modeling that is used in the application. PBA has been informed that Arkansas is postponing work on the RCRA application pending the outcome of the alternative technologies study.

- *Pueblo Depot Activity (PUDA), Colorado:* Updating of current RCRA/CAA permit applications for the Pueblo Chemical Agent Disposal Facility continued. The Colorado Department of Health informed USACMDA that based on PUDA emission estimates, the CAA application will have to be a Prevention of Significant Deterioration (PSD) permit. The Army proposed and the State has informally accepted the limiting operation of certain PUDA boilers in order to address the PSD requirement. The permit application will address both cryofracture and baseline incineration technologies.

- *Tooele Army Depot, Utah:* The State of Utah issued the Tooele Chemical Agent Disposal Facility (TOCDF) RCRA and CAA permits in June 1989 and September 1989, respectively. Currently, the RCRA permit is being modified to reflect the latest operational and design changes implemented as a result of JACADS lessons learned. Negotiations are continuing with the State on the issue of surrogate trial burns for the TOCDF incinerators during 1994 to demonstrate the same environmental compliance attained at JACADS, in order to permit disposal operations to commence in early 1995.

Because of the numerous starts and stops in the environmental arena in the past year, public outreach and coordination with local, state and other federal agencies has taken on greater importance. The Army was proactive in its efforts to insure that accurate and timely information was available in the public domain to facilitate citizen and public agency involvement.

The Intergovernmental Consultation and Coordination Board (ICCB) remains the primary forum to deal with the depots and appointed State and other Federal agencies (principally FEMA and EPA). Two installations held ICCB meetings during fiscal year 1993. In June 1993, the Umatilla Depot Activity ICCB met following a tour of the installation by area media. In August, the Blue Grass ICCB met in conjunction with the first Citizen's Advisory Commission meeting.

The National Defense Authorization Act for Fiscal Year 1993 required the establishment of a Chemical Demilitarization Citizens Advisory Committee (CAC) for each low-volume site (Blue Grass Army Depot, Kentucky; Newport Army Ammunition Plant, Indiana; and Edgewood Area, Aberdeen Proving Ground, Maryland). The formation of a CAC in any other state where chemical stockpiles exist is required only if requested by the Governor of that state.

In January 1993, the Secretary of the Army requested that Governors of low-volume states begin forming commissions and invited other affected States to join this effort to enhance citizen input to the decision process. Throughout the year, CAC's were formed in Kentucky, Indiana, Colorado, Utah, Maryland, Oregon, and Alabama. The Governor of Arkansas has assigned responsibility for the Chemical Demilitarization Program issues or concerns to his Chemical Stockpile Emergency Preparedness Program representatives and will not form a CAC. Written comments on the NRC's February report on alternative technologies have been received from the CAC's and have been incorporated in the Army's Alternative Demilitarization Technology Report to Congress.

CRYOFRACTURE DEVELOPMENT AND TESTING PROGRAM

Cryofracture/incineration technology testing was completed at Dugway Proving Ground (DPG), Utah; the General Atomics (GA) facilities in San Diego, California; and the Chemical Agent Munitions Disposal System (CAMDS) facility at Tooele, Utah. The following is a synopsis of activities.

At DPG, simulant-filled 105mm M60 projectiles, 4.2-inch mortars, and M61 rockets were successfully cryo-cooled and fractured during testing. During the initial testing of 105mm projectiles, a projectile rolled out of position and part of the explosive burster detonated when the press crushed the fuse. There were no personnel injuries or damage to the equipment, which is designed to withstand the explosive force of the even larger 8-inch projectile. Corrective measures were taken to prevent future occurrences, and over 1,600 projectiles were subsequently cryofractured without further incident. The testing program demonstrated that reconfiguration operations (i.e., separating propellent charges from the explosively configured munitions) would be required in the cryofracture process, as is the case in the baseline process, due to the sensitizing effect of liquid nitrogen cryofracture bath on propellent grains.

Cryofracture testing at the GA facility in San Diego included the Material Transfer Robot and supporting door lock-and-seal mechanisms. Testing was successfully completed in June 1993.

CAMDS completed VX bulk and mixed feed incineration tests in April and August 1993, respectively. The final event of the cryofracture test program, the warm-air decontamination test of the Material Transfer Robot arm, was completed at CAMDS in October 1993.

A special Army Systems Acquisition Review Council (ASARC) was held in October 1993 to select the preferred disposal option (cryofracture/incineration disposal plant (CIDP) or baseline incineration plant) for the disposal facility proposed for Pueblo Depot Activity (PUDA), Colorado. The ASARC recommended to the Office of the Under Secretary of Defense (Acquisition and Technology) that the baseline process be utilized, based primarily on: (1) cost and schedule risks associated with the CIDP; (2) concerns expressed by the NRC in a written report on the ability of the cryofracture process to safely destroy a mixed waste stream while maintaining environmental compliance; and (3) the expected complexities of the environmental permitting process for an immature process compared to baseline. The Office of the Secretary of Defense concurred with the Army's recommendation and the Congress was notified on March 4, 1994 of this decision. A detailed report outlining the Army's decision has been provided to the Congress.

In 1994, we propose completion of both the process and facility designs for a full-scale cryofracture/incineration demonstration plant.

NON-STOCKPILE CHEMICAL MATERIEL DESTRUCTION PROGRAM

The Non-Stockpile Chemical Materiel Program became permanent with the official establishment of USACMDA on October 1, 1992. A concept plan for implementation of the overall program was in development throughout fiscal year 1993 and continues in fiscal year 1994. The focus in fiscal year 1994 is to begin the preparation of the Programmatic Environmental Impact Statement for the Non-Stockpile Program; continue the development of a mobile system for on-site disposal at small burial sites; and the procurement for fiscal year 1995 award of the small burials contract to complete development of the on-site disposal capability.

The Non-Stockpile Chemical Materiel Program Interim Survey and Analysis Report, submitted to Congress in April 1993, fulfilled part of the congressional requirement for a report on destruction of non-stockpile materiel. This interim report defined the scope of the non-stockpile program in areas of materiel types, quantities, and locations. The Final Survey and Analysis Report, submitted to Congress on November 23, 1993, outlined the magnitude of the disposal effort by providing rough-order-of-magnitude cost and schedule estimates for destroying non-stockpile chemical materiel within the United States and its territories.

Several studies and reports were prepared to establish programmatic requirements for the recovery, handling, storage, transportation, and ultimate disposal of non-stockpile chemical warfare materiel. These included the Generic Site Scoping Study, Generic Interim Storage Plan and Generic Transportation Plan. A Programmatic Environmental Impact Statement will be initiated in 1994 to address the full scope of non-stockpile chemical materiel to be destroyed.

Site-specific plans were prepared for the Former Raritan Arsenal, New Jersey; Former Fort Segarra, Virgin Islands; and Spring Valley, Washington, D.C. (former Camp American University).

In addition, the U.S. Army Corps of Engineers and USACMDA, under the leadership of the U.S. Army Chemical and Biological Defense Command (CBDCOM), successfully completed Phase 1 emergency recovery actions for the former Camp American University without incident. Phase II operations, now in progress, focus on a detailed site characterization to locate and remove contamination.

Planning was initiated for the destruction of the Aberdeen Proving Ground Pilot Plant with the initiation of a contract effort for the problem definition phase. Planning for the destruction of the former VX production facility at Newport Army Ammunition Plant included preparation of a statement of work for defining the extent of agent contamination at the facility.

The following is a synopsis of design activities:

- *Munitions Management Device (MMD) and Rapid Response System (RRS).* Development of two systems was continued in 1994 for the assessment, accession and on-site disposal of non-stockpile chemical warfare materiel. The MMD 1 will process non-explosively configured munitions and the RRS will process Chemical Agent Identification Sets. The RRS utilizes commercially available technology for non-intrusive fill assessment and materials handling. Both systems utilize chemical neutralization for agent destruction. Detailed design and acquisition of the RRS and MMD 1 were initiated in 1994. After successful demonstration of the MMD 1 system, follow-on MMD systems (MMD 2 and MMD 3) will be developed for processing explosively configured munitions and bulk containers, respectively.

- *Portable Isotopic Neutron Spectroscopy (PINS).* Monitors are being evaluated that will facilitate determining the composition of materiel inside a munition without opening the munition itself. The PINS can determine the presence and relative proportion of elements which facilitate identification of GB, VX, HD, lewisite, white phosphorus, high explosives, and propellants. The PINS prototype proved its value at a number of sites, including the former Camp American University, Fort Meade, Redstone Arsenal and Dugway Proving Ground. The PINS has been procured and training initiated for the U.S. Army Technical Escort Unit's use in munition assessment at future recovery sites.

- *Raman Spectrophotometer.* The Raman Spectrophotometer is a commercially available monitor being evaluated for non-intrusive agent detection capabilities with recovered glass containers such as the Chemical Agent Identification Sets. Initial tests with actual Chemical Agent Identification Sets were accomplished at Tooele Army Depot, Utah and additional tests with agent samples are planned at CBDCOM.

The Army intends to contract for the recovery, transportation, storage, and disposal of non-stockpile chemical warfare materiel. The small burials contractor will receive and temporarily store recovered chemical warfare materiel from the government and will be responsible for demilitarization, decontamination, and final disposition of the materiel. If non-stockpile chemical materiel is transferred to other sites, the contractor will execute the Army-approved transportation plan and will be responsible for any logistical support functions required for transfer. The small burials contractor will also conduct field tests on the MMD and will be responsible for its maintenance, storage, and operation.

SUPPORT TO DOD COUNTERPROLIFERATION/COOPERATIVE THREAT REDUCTION INITIATIVES FOR CHEMICAL WEAPONS DESTRUCTION

The objective of U.S. support to the Russian chemical weapons (CW) destruction program is to assist Russia in the safe, secure, timely, cost effective, and environmentally sound destruction of its CW stockpile. Current focus of U.S. support is in the areas of program development and management, establishment of a chemical and environmental analytical laboratory, and technical support for destruction of nerve agent filled weapons.

Calendar year 1993 was characterized by real progress in the area of CW destruction cooperation. The U.S. Chemical Weapons Destruction Support Office (CWDSO) was established in Moscow, Russia in June 1993. The CWDSO is the technical focal point in Russia for U.S. assistance to the Russian CW destruction program. The scope and mission of the CWDSO are defined in the Plan of Work which was negotiated with the Russian Federation President's Committee and the Ministry of Defense (MOD). The Russian Intern Familiarization Training Program was initiated in September 1993 with the arrival of six Russian Nationals selected by the President's Committee. The interns have received training and insight into the U.S. CW destruction management and operational concepts at the Army's central training facility at Aberdeen, Maryland.

In 1994, a major contract will be awarded for the preparation of a Comprehensive Implementation Plan, which will assist Russia in its CW destruction program. In addition, the DOD will assist the Russians in developing a viable project management system; selecting destruction technologies; and in establishing a Central CW Destruction Analytical Laboratory (CAL). Although the CAL is not directly involved in the destruction of chemical agents, it fills a void which currently exists in the Russian CW destruction program in the areas of low level agent detection and environmental analyses. In essence, the Laboratory is a cross between an Environmental Protection Agency (EPA) certified laboratory and a DOD chemical agent laboratory. DOD has designated $55 million to support these two related efforts.

CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM (CSEPP)

Last year, the Army was directed to streamline the current management structure by doing away with the current steering committee approach and establishing a single accountable focal point within the Department of the Army to implement the program. Since then, the Army has abolished the

Joint Steering Committee and the six functional subcommittees A program office under the U. S. Army Chemical and Biological Defense Command (CBDCOM)[1] at Aberdeen Proving Ground will be established by October 1, 1994, to manage the program. The Army and FEMA established a Joint Program and Budget Review Panel to exercise greater financial control over the program. Finally, the Army and FEMA have instituted changes to the budget process to bring state and local budgeting in line with the Army Budget by FY 1996.

We continue to make progress in completing the planning standards. All but one of the 13 planning standards will be approved by mid-summer. Delays in completing the standards for Emergency Worker Operations and Emergency Medical Services are caused by a multi-step process that has proven to be more complex, time-consuming, and difficult than originally anticipated. It included the need to complete several complex and lengthy technical studies regarding the extent of possible chemical agent contamination. These technical studies were required before the Occupational Safety and Health Administration (OSHA) would consider approval of protective equipment for civilian emergency responders and are in the final stages of review and validation. The Army and the Centers for Disease Control (CDC) first engaged OSHA in 1991 to seek alternatives to existing equipment to permit first responders to perform essential functions during a response. The Army anticipates that state and local governments will begin procuring protective equipment for their emergency responders by the end of this fiscal year.

The Recovery Phase Activities planning standard was always intended to be the last standard completed since it does not directly affect emergency response. However, it will be the technically most difficult standard of the thirteen to complete. A lack of basic background data for determining the baseline status of the environment that is threatened with decontamination from a chemical accident could require policy decisions from the government with far ranging consequences. In light of this and other emerging issues, the Army may be forced to reevaluate its current approach to the development of a Recovery Phase Activities planning standard.

Significant progress has been made over the last year in the procurement installation and testing of state and local warning, communications and automation systems. By the end of this calendar year, the Army anticipates that virtually all of these systems will be either in place or in the procurement process. Funding in 1995 and beyond will support completion of the procurement and installation of these systems. At that time, the program will begin moving into testing and maintenance of the systems.

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[1] CBDCOM is the major subordinate command within the U. S. Army Materiel Command, which will be assigned responsibility in the near future for management of the chemical storage and surveillance functions at the eight CONUS chemical weapons storage sites.

SCHEDULE REVISIONS AND LIFE CYCLE COST UPDATES

The program delay required by the alternative technology studies have added significant program schedule and cost uncertainties to the Chemical Stockpile Disposal Program (CSDP). The development and ultimate implementation of one or more of the recommended alternatives to the baseline incineration process is not a short-term effort and would clearly extend the overall program completion date. Incremental costs for alternative technologies would include the following:

- Parallel research, development, test and evaluation (RDTE) efforts with concurrent pilot plant and process designs.

- Restart environmental documentation for any site where an alternative is selected.

- New contracts with a potential for increased capital costs because of the prototypic nature of a new disposal process.

- Extended storage costs and associated overhead at sites which may be delayed.

It is important that the Army receives early feedback from the Congress on its Alternative Technology Report (ATR), delivered to the Congress in April 1994, in order to mitigate and manage future cost growths.

Assuming no change to the baseline approach for destroying the continental U.S. (CONUS) stockpile, there will be additional cost growth to the program in 1994 due to delays in environmental permitting, design and procurement activities, and pending resolution of the ATR issues. There are also extended operational schedules due to revisions of the expected destruction rates of Operational Verification Test (OVT) operations at the Johnston Atoll Chemical Agent Disposal System (JACADS). Good data is now available on this prototype plant's ability to sustain 24 hours per day disposal operations. Table 1 is a Planning Schedule for the Chemical Stockpile Disposal Program which incorporates these changes. It will be used, in conjunction with the final ATR and

Congress' directions with regard to alternative technologies, to complete a comprehensive, bottom-up revision of the programmatic Life Cycle Cost Estimate (LCCE). The 1993 LCCE was $8.6 billion. This estimate will increase during the 1994 LCCE revision, principally due to the following factors:

- Extension of the JACADS program by three years to January 1999, followed by closure of that facility.

- Impact of the JACADS operational experience (e.g., revised throughput disposal rates primarily for projectiles and rockets) on similar operating campaigns in the CONUS mixed-munitions disposal facilities, and realistic timelines required for agent changeover and processing and issuance of the Resource Conservation and Recovery Act (RCRA) permits. We now have a much better database on which to base agent changeover operations in the plants, as well as reasonable expectations of the enormously complex and time-consuming process to obtain routine, beneficial changes in the RCRA permits.

- Major new expenditures in the Chemical Stockpile Emergency Preparedness Program (CSEPP) for personal protective equipment, collective protection systems and automation systems designed to respond to the "maximum protection" mandate of the Congress.

- Cost of inflation due to schedule delays.

All of these factors will be included in the 1994 LCCE update, which will be concluded by late summer. As seen from the planning schedule at Table 1, we estimate that the updated baseline program can still be executed with the currently mandated completion date of December 2004. Any decision to undertake alternative technologies must be made with caution. The Army's preliminary assessment is that full development and implementation of alternative technologies could possibly preclude stockpile disposal completion within the 10-year Chemical Weapons Convention (CWC) destruction deadline (expected to occur in January 2005). Any program development precluding CWC timeline compliance is of serious concern to the Administration and will have to be carefully weighed. The President is committed to the earliest possible ratification and entry-into-force of the CWC, and to full and effective implementation of our CWC obligations. The schedule at Table 1 is contingent upon timely approval of RCRA and Clean Air Act permits to start construction, as indicated. The States have primacy for both of these critical permits and they are clearly in the "driver's seat" with respect to future schedules.

TABLE 1
CHEMICAL STOCKPILE DISPOSAL PROGRAM PLANNING SCHEDULE[1]

Location	Start Facility Constr	Start Prove-out	Start Operations[2]	End Operations[2]
JACADS	Nov 85	Aug 88	Jan 94	Jan 99
Training Facility	Jun 89	N/A	Oct 91	Mar 02
Tooele Army Depot	Sep 89	Aug 93	Mar 95	Jun 01
Anniston Depot	Sep 94	Jul 97	Jan 99	Aug 02
Umatilla Depot	Jul 95	May 98	Nov 99	Dec 02
Pine Bluff Arsenal	Aug 95	Apr 98	Oct 99	Nov 02
Pueblo Depot	Feb 96	Dec 98	Jun 00	May 02
Blue Grass Depot	Jan 97	Nov 99	May 01	Feb 03
Aberdeen Prov Grnd	Jan 98	Jun 00	Jun 01	Apr 02
Newport Ammo Plant	Jan 99	Jun 01	Jun 02	Mar 03

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[1] This schedule does not take into account delays from major system failures, litigation, or adoption of alternative disposal technologies.

[2] The operations periods reflect revisions in munitions throughput destruction rates and agent/munitions change-over periods based upon JACADS OVT actual experiences (including demonstrated reliability improvements, and other operational lessons-learned. This schedule will be submitted to a systematic risk assessment, including critical environmental milestone events, prior to being used to update the CSDP life cycle cost estimate later this year.

FISCAL YEAR 1995 BUDGET

For fiscal year 1995, the budget for the Chemical Stockpile Disposal Program (CSDP) and Non-Stockpile Chemical Materiel Program (NSCMP) totals $851.3 million. This consists of $575.3 million for the Chemical Agents and Munitions Destruction, Defense (CAMD,D) appropriation and $276.0[1] million for the Military Construction, Army (MCA) appropriation. The CAMD,D account is further divided into three budget activities: Research and Development--$11.3 million, Procurement--$208.5 million and Operation and Maintenance--$355.6 million. (NOTE: These amounts do not add to the CAMD,D total, due to rounding.) Following are some of the significant activities scheduled for fiscal year 1995:

- Continuation of disposal operations at the Johnston Atoll Chemical Agent Disposal Systems (JACADS).

- Completion of testing at the Chemical Agent and Munitions Destruction System (CAMDS)[2] .

- Commencement of disposal operations at the Tooele Chemical Agent Disposal Facility (TOCDF).

- Conduct of munitions reconfiguration operations at the Anniston Chemical Agent Disposal Facility (ANCDF) and Tooele Army Depot, UT.

- Award of systems contracts for construction/operation of the Umatilla Chemical Agent Disposal Facility (UMCDF) and Pine Bluff Chemical Agent Disposal Facility (PBCDF).

- Issue requests for proposal for Pueblo Chemical Agent Disposal Facility (PBCDF).

- Continue/initiate design and environmental activities for Blue-Grass Chemical Agent Disposal Facility (BGCDF), Newport Chemical Agent Disposal Facility (NECDF) and Aberdeen Chemical Agent Disposal Facility (ABCDF).

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[1] Includes $2.0 million each for Chemical Weapons Treaty Facilities at Pine Bluff Arsenal, Arkansas, and Umatilla Depot Activity, Oregon.

[2] Based on the Army's recommended research and development program for Alternative Technologies, CAMDS closure will be delayed.

- Continue the Chemical Stockpile Emergency Preparedness Program training, response planning and acquisition of equipment for communications, decontamination and chemical destruction.

- Continue programmatic planning, selection, testing and acquisition of equipment and material in support of non-stockpile operations.

A summary of the fiscal year 1995 Chemical Demilitarization and the Non-Stockpile Chemical Materiel Program budget is at Table 2. For comparison purposes, the budgets for fiscal years 1993 and 1994 are also included.

TABLE 2
CHEMICAL DEMILITARIZATION PROGRAM
FY 1995 President's Budget Submission
TOA ($ M)

CHEMICAL AGENTS AND MUNITIONS DESTRUCTION, DEFENSE

	FY93	FY94	FY95
Budget Activity 1: Research and Development			
Cryofracture Program	4.0	0.0	0.0
Enhanced Agent Monitoring	2.5	0.0	0.0
Alternative Technology to Baseline Incineration	0.0	25.0	0.0
Non-Stockpile Chemical Materiel Equipment	0.0	5.7	11.3
TOTAL Research and Development	6.5	30.7	11.3
Budget Activity 2: Procurement			
Engineering Services	15.7	11.8	14.3
Emergency Preparedness Program	12.1	33.0	11.2
Johnston Atoll Chemical Agent Disposal System	1.6	1.7	1.7
Chemical Agent Munitions Disposal System	2.6	0.2	2.2
Chemical Demilitarization Training Facility	0.0	0.0	0.0
Tooele Chemical Agent Disposal Facility	30.4	5.4	5.9
Anniston Chemical Agent Disposal Facility	170.3	0.0	0.0
Umatilla Chemical Agent Disposal Facility	1.4	10.5	94.8
Pine Bluff Chemical Agent Disposal Facility	6.4	1.4	50.5
Pueblo Chemical Agent Disposal Facility	4.2	0.7	24.7
Blue Grass Chemical Agent Disposal Facility	0.0	1.1	0.7
Newport Chemical Agent Disposal Facility	0.0	0.0	0.0
Aberdeen Chemical Agent Disposal Facility	0.0	0.0	1.1
Cryofracture Long Lead Time Process Equipment	0.0	0.0	0.0
Non-Stockpile Chemical Materiel Program	0.0	2.2	1.4
TOTAL Procurement	244.7	68.0	208.5

CHEMICAL DEMILITARIZATION PROGRAM
FY 1995 President's Budget Submission
TOA ($ M)
(Continued)

	FY93	FY94	FY95
Budget Activity 3: Operation and Maintenance			
Program Management--PM Cml Demil	6.6	8.3	8.9
Program Management--USACMDA	4.0	4.9	5.6
Emergency Preparedness Program	52.2	45.1	55.2
Program and Integration Support	14.0	8.6	8.6
Program Oversight, Environmental and Engineering Services	16.1	16.0	16.5
Johnston Atoll Chemical Agent Disposal System	104.0	107.6	114.9
Chemical Agent Munitions Disposal System	21.2	24.1	20.5
Chemical Demilitarization Training Facility	1.5	6.6	5.1
Tooele Chemical Agent Disposal Facility	37.3	37.5	75.3
Anniston Chemical Agent Disposal Facility	2.4	6.8	20.2
Umatilla Chemical Agent Disposal Facility	0.3	0.8	4.3
Pine Bluff Chemical Agent Disposal Facility	0.6	1.2	4.2
Pueblo Chemical Agent Disposal Facility	0.2	2.0	3.0
Blue Grass Chemical Agent Disposal Facility	0.3	1.0	1.5
Newport Chemical Agent Disposal Facility	0.2	0.1	0.8
Aberdeen Chemical Agent Disposal Facility	0.2	0.5	0.8
Program Management--PM Non-Stockpile Cml Mat'l	0.8	1.5	1.6
Non-Stockpile Chemical Mat'l Program	5.5	18.7	8.6
TOTAL Operation and Maintenance	267.4	291.3	355.6
TOTAL Chemical Agents and Munitions Destruction, Defense	518.6	390.0	575.4*

*May not add due to rounding

CHEMICAL DEMILITARIZATION PROGRAM
FY 1995 President's Budget Submission
TOA ($ M)
(Continued)

	FY93	FY94	FY95
Military Construction Army			
Facility Construction:			
UT, Tooele Chemical Agent Disposal Facility		1.5	
AL, Anniston Chemical Agt Disp Fac, Phase III	0.0	110.9	0.0
OR, Umatilla Chemical Agent Disposal Facility	0.0	0.0	179.0
AR, Pine Bluff Chemical Agent Disposal Facility	0.0	0.0	97.0
Depot Support (to Chemical Demil):			
AR, Pine Bluff Arsenal	15.0	0.0	0.0
TOTAL Military Construction, Army	15.0	112.4**	276.0**

** Includes Chemical Weapons Convention facilities as follows:
- FY 1994--$3.5 million ($1.5 million at Tooele Army Depot, UT and $2.0 million at Anniston Army Depot, AL)
- FY 1995--$4.0 million ($2.0 million for both Pine Bluff Arsenal, AR and Umatilla Depot Activity, OR).

SUMMARY

In conclusion, Mr. Chairman, the Chemical Demilitarization Program is a national program with significant importance, impact, and visibility. The United States is the only nation which has developed and demonstrated a technology which can safely destroy large quantities of chemical weapons. Including the fiscal year 1995 budget request, over $3.4 billion has been expended or requested in support of the U.S. Chemical Demilitarization Program, to date.

The Chemical Stockpile Disposal Program continues to evolve. As we continue with full-scale disposal operations at JACADS and systemization at the Tooele facility, we are focused on our goal of destroying the nation's stockpile of chemical weapons safely while meeting all environmental requirements. The Army will implement a research and development testing effort on two promising alternative technologies (neutralization (stand-alone) and neutralization followed by biodegradation) as potential backups to the baseline process for the low-volume bulk storage sites. This effort is being done to assure ourselves and the nation that the safest and most cost effective technologies are employed to complete this critical program. The Non-Stockpile Chemical Materiel Program is beginning to evolve and will undoubtedly experience some growing pains, as is the case with other immature, complex programs. As we advised this Committee last year, the Army instituted management practices to ensure institutionalized cost and schedule controls, improve decision-making; and streamline command and control. These initiatives will enable the Army to effectively manage the known variables and anticipate changes to the Chemical Demilitarization Program. However, Mr. Chairman, these procedures have not and will not prevent unknown, unforeseeable, and uncontrollable factors from changing the program. You can be assured that cost and schedule increases, which are difficult to accept, will be managed and mitigated to the maximum extend possible for both the Chemical Stockpile Disposal Program and the Non-Stockpile Chemical Materiel Program.

A new organizational management structure has been created for the Chemical Stockpile Emergency Preparedness Program. This was successfully accomplished due to the exceptional cooperation demonstrated by both Army and the Federal Emergency Management Agency (FEMA). A Joint Program and Budget Review Panel has been established to exercise greater financial control over the program.

As we proceed toward our goal, we are constantly aware of the public's intense interest in this program. We have and will continue to work closely with the established Chemical Demilitarization Citizens Advisory Commissions and the public.

CHEMICAL STOCKPILE DISPOSAL PROGRAM COST AND SCHEDULE

Mr. MURTHA. Thank you very much for your statement.

General Busbee, how long have you been in this program?

General BUSBEE. Four years, Mr. Chairman.

Mr. MURTHA. It has been a long time. The program has changed substantially—maybe not the goals but the costs have certainly risen substantially.

The original estimate we got was less than $2 billion with a completion date of 1994. Now we get an $8.6 billion estimate with a completion date of 2003. I heard you say, Secretary Walker, that you expected to adhere to that.

Nobody has been more interested than we in this program, because we are not only concerned about taking care of the past problem, we are also looking at what we can do to increase the ability of the services to make weapons that can be demilitarized without going through these very expensive procedures. We hope we can spend some of this money up front in the future and eliminate it.

We have assembled in this room the foremost expert in chemical demilitarization with General Busbee and also the foremost executives in this country, maybe worldwide, to head up this program. So we appreciate the problems you face. We hope this will be the last time we hear that this program has been delayed or extended, or that the cost estimate has increased. This is last year's estimate. This $8.6 billion; is this it?

Mr. WALKER. Mr. Chairman, I will tell you honestly the cost is going to increase for several reasons. There have been lessons learned at Johnston Island. We have to incorporate those new designs into the other plants. The through-put rate at Johnston Island was slower than anticipated. We have permitting delays in various locations. And also now we have the alternative technology report, which we plan to implement. All of that is going to extend the cost.

Mr. MURTHA. What are we talking about?

Mr. WALKER. As I indicated in my statement, we are currently in the process of validating a new cost estimate for the life of the program.

Mr. MURTHA. And you are saying you will be finished by 2003? What makes you think you will hit that date?

Mr. WALKER. The technology—we follow the base-line technology, Mr. Chairman, and we are going to be able to do that, assuming that we get the environmental permits, assuming we get the construction under way and the disposal operations under way.

General Busbee might want to elaborate on that.

General BUSBEE. I would just add to what Mr. Walker said, Mr. Chairman. There has been considerable cost growth in the program, as you have pointed out. We have seen the delay, we think it was a prudent delay, to have the National Academy of Science go back and check the soundness of what we are doing. While the NRC was doing that, we were getting the actual results from our facility on Johnston Island, and I would point out, that is the only operating, large-scale disposal facility in the world, not just the free world, but the world.

And we have learned an enormous number of lessons from the operations of the Johnston Island Facility. The regulatory requirements for ensuring that these are the safest and most environmentally clean facilities in the world are substantially greater than when we first put this program before the Congress some eight years ago, Mr. Chairman.

Mr. MURTHA. I hear the latest estimate is $10 billion.

General BUSBEE.We don't have the final cost estimate. We will have that this summer. We are seeing, from the delays we have experienced in the program, while we held Anniston up essentially for a year plus the cost of inflation and the additional amount of time that will be required for operating periods for all of the facilities, the cost estimates could approach that level. But we don't have a firm handle on that yet.

Mr. MURTHA. Would that include the "non-stockpile" material?

General BUSBEE. No, sir. It does include the programmatic and study costs for the non-stockpile disposal effort. But the department is not proposing at this point in time for the varied chemical warfare material items we briefed you on here last spring, to include those as part of the overall chemical demilitarization program.

We would seek to treat those sites on a worst-case basis, under the Defense Environmental Restoration Program accounting authorization just as we do other environmental hazards that are associated with former DOD activities.

To answer your question directly, that additional cost increase does not include the cost of the non-stockpile program.

Mr. MURTHA. How about dismantling the equipment after the completion of the program?

General BUSBEE. Yes, sir, the $8.6 million estimate included taking the equipment out of the buildings and cleaning up the building. It does not include a final cost if we are required, as some of our legal advice tells us, to do what we call "rubblize those buildings", which would take them down to ground level again and plant daisies, so to speak, over the ground. We have an engineering study underway to find out what is the best way to finally demolish the plants.

DISMANTLING OF CHEMICAL WEAPONS

Mr. MURTHA. Does anybody come to you and ask what we can do in building a weapons system in order to make it easier to dismantle? Most of these weapons systems are never used. We pay for them, we build them, they are a deterrent, they avoid war—that is the wonderful thing about them—but on the other hand, they are very hard to dismantle. Does anybody come to you and suggest building the destruction into the system? What do you suggest?

General BUSBEE. You are exactly right, Mr. Chairman. The M–55 rocket, which is the problem child, and the real smoking gun in this program, is a classic example of how not to do it right. We put everything in that rocket tube so it is extremely difficult and hazardous to take it apart.

In our later phases of the chemical weapons program, we built-in the capability to demilitarize. As you know, when we built the binary chemical weapons we were able to segregate the hazardous components and store them separately. Those components will be destroyed under the non-stockpile program. That is a relatively easy task, because we built in the ability to disassemble and dispose of those components without having to build the elaborate kinds of facilities we require now for the stockpile items.

The Department of Defense and the Army now provide specific guidance to program managers to consider demilitarization of the weapons development cycle in the early phases before they ever put the blueprints into hardware. They must ensure that whatever they propose to build—whether it is a tank, a depleted uranium round, or a conventional or nuclear ammunition round—that the program manager has to demonstrate the ability to dispose of that item in an environmentally sound manner, before he is permitted to come to Congress to ask for funds to produce such a system.

But that is history and lessons learned—that, unfortunately, we don't have the benefit of in this program. These are bad weapons, which are very difficult to take apart, and very expensive too.

CRYOFRACTURE PROGRAM

Mr. MURTHA. It is something I have been pushing for years, for all systems, not only for chemical weapons but nuclear weapons, in every system—how do we dismantle it with the least amount of cost. This certainly indicates how difficult it is.

What about the program that we have recommended a couple of years to compete with the base-line program? Cryofracture. That has gone now? Did you disassemble that program?

Dr. SMITH. I disassembled that program, sir.

Mr. MURTHA. What was the problem?

Dr. SMITH. Once I had the benefit of the National Academy's report, there was no longer an engineering reason to proceed. The Academy was very clear in pointing out the dangers to the populace of using a single kiln with frozen residue composed of agents, explosives, et cetera.

Mr. MURTHA. What you are really talking about here then is one system, but this is part of our problem. It is like anything else, we have one system but not competition at all. It helps drive up the price. Is that part of the problem?

Dr. SMITH. No, sir. I think the competitors have been competing in this program for quite some time.

Mr. MURTHA. Is that right? So you have base-line competitors then?

Dr. SMITH. Yes, sir. We are embarked already; we have finished the second-generation plant at Tooele, with permits and contracts to be awarded this summer at Anniston. We are ready with the third-generation plant.

As you know, sir, each plant produces more lessons learned. The same reason that each airplane that Boeing builds costs less to build. Lessons are being learned and we are now embarked on production rather than development.

Mr. MURTHA. With that projection, then, our costs ought to be going down instead of up so dramatically.

Dr. SMITH. No, sir, I think the learning curve has been included in those costs. I know we do that in the airplane industry.

RESEARCH ON ALTERNATIVE TECHNOLOGIES

Mr. MURTHA. Mr. McDade.

Mr. MCDADE. Mr. Chairman, thank you.

Let me welcome all of you here. I congratulate you on doing a good job under very difficult circumstances. Let me welcome Mike. We are glad to see an appropriator back up here. Did you come up with Joe Evins?

Mr. WALKER. Yes, sir. I miss him every day.

Mr. MCDADE. He was an early chairman for me. He wrote a book called Understanding Congress. For the benefit of all of you, it was about 150 pages. I read it as a freshman and was convinced I knew everything. Thirty-two years later all I do is scratch my head, of course. But we sure welcome you, Mike. We wish you well and look forward to working with you.

The Chairman opened the issue of alternatives. The Defense Authorization Act required the Army to report to Congress on potential alternatives to the base-line disassembly and incineration process for the destruction of chemical weapons.

Among other things, the Army was directed to respond to the National Research Council concerning alternative technologies. That report basically endorsed the base-line technology, as I understand it, but recommended "a substantially accelerated and expanded" research program be undertaken on agent neutralization, for possible application to low volume sites.

The Army submitted its response to the NRC recommendations last week. What is the Army's plan for research on neutralization technology? Do you have a plan on that?

Dr. SMITH. The Army does have a plan. I have looked at it. I think you probably should direct your question to General Busbee or Mr. Walker.

General BUSBEE. Sir, I think we have an aggressive plan that will answer definitely, once and for all, if in fact there is a safer and environmentally preferable alternative to direct high-temperature incineration. That is the reason we are recommending and will be requesting funds to investigate two of the four alternatives that have been recommended for further study. Our proposed development program will only address two of the four potential alternatives.

Were we to implement the full recommendations of the NRC, it is our estimate that would cost a billion dollars for the research and development program alone, spanning almost a decade, and delving into some technologies we feel may be applicable to standard hazardous waste disposal in the future, but certainly they are not mature enough today to invest those kind of resources for chemical disposal purposes.

ESTIMATED COST OF ALTERNATIVE TECHNOLOGY RESEARCH

Mr. MCDADE. How much will the two cost?

General BUSBEE. If we went beyond from a bench scale, laboratory and that is all we are proposing at this stage, it would be a $43 million research and development program over about a one and one-half to two years period. At that point we hope to have answered, certainly to our satisfaction, as well as to the environmentally concerned and the critics of the program, if that technology is promising enough to proceed to the pilot plant stage.

We know from experience that we can't go from the laboratory directly to a production plant. If the bench scale and laboratory testing is successful we would come back to Congress and seek additional funding to implement a pilot plant test. A full pilot plant test program is estimated to cost about another $160 million.

The point I would like to make, and then I will ask Mr. Walker if he would like to elaborate on it, is that we don't believe we can accomplish that program much before the end of this decade. The NRC report indicated the same general funding. That would give us very limited time in order to implement it in the disposal program and still be able to complete the destruction program by the year 2003 while containing future cost growths.

Mr. McDade. Is the $44 million in the budget, General?

General Busbee. No, sir.

Mr. McDade. How do you expect to get on with it?

General Busbee. We have $25 million that was appropriated in fiscal year 1994, but not authorized for alternative technology R&D programs. We will be coming forward shortly—to Congress with a request to use those funds.

Mr. McDade. A new request for the $44 million?

General Busbee. Yes, that is the amount required to allow us to begin this new program.

Mr. McDade. The entire amount?

General Busbee. Yes, sir, including a portion of that, about $4 million to complete the cryofracture design, which is currently about 75 percent completed.

PURPOSE OF ALTERNATIVE TECHNOLOGY RESEARCH

Mr. McDade. You have already said the time line is virtually neutral between the two processes. So they are not doing this for purpose of saving time, apparently, or money.

General Busbee. No, we are doing it as a back-up system. If there is a breakthrough, we want to be able to implement that, obviously.

Mr. McDade. Is that a key feature this other system gives you, additional safety?

General Busbee. That is yet to be determined. It gives us a backup if we run into a location where there is a potential we will never get a permit to build an incinerator facility. It will give us the option of having a back-up if we face litigation or if we face a situation, as we have faced previously in the State of Kentucky, in which the State of Kentucky has passed environmental regulations and restrictions that are more stringent than the national standards.

We still think we can meet those requirements in Kentucky with the base-line incineration process. That is yet to be demonstrated to the regulators in the State of Kentucky and to EPA. This program would give us the capability, the default mechanism, if you will, to not have the program stop dead in the water if we face such a hurdle in the future.

Mr. McDade. Do you think it is realistic to think if a State like Kentucky, probably a lot of other States, if they were faced with the problem, would enact very restrictive measures with respect to incineration that they wouldn't do with an alternative process?

General BUSBEE. Kentucky and other states would be happy to let us neutralize the agent and then ship residual products somewhere else for final disposal.

Mr. McDADE. We favor having you do research that is useful. But if it is not going to save time and it is going to give you a backup that is subject to the same problems as incineration, is it really worth doing, in your judgment?

You can all comment, if you want to.

Mr. WALKER. Mr. Chairman, there is a lot of concern out in the community. I have traveled to many of the communities in my former job as staff director of the Military Construction Committee on the Senate side. This research is going to help the Army's program, I will be honest with you. It is going to show the communities that we are engaged in an honest effort at looking at whether their interests, their concerns about incineration can be met in an alternative way.

We are charged also by congressional mandate to look at this and implement it if we find it is more cost effective than incineration, if it is safer than incineration, and if it can be done under the same time line.

Dr. SMITH. It is a highly emotional issue. As Secretary Walker, I also went out to the local community, Pueblo. When one deals with farmers who have invested everything they have and are worried about tainted food, the fact that it could bankrupt them immediately is a very, very worrisome point.

The trouble there is, of course, perception is in the minds of the press and the people. A leaking munition at Pueblo could be as dangerous to that incentive as the vision of an incinerator or even a mistake in the neutralization process which has yet to be defined.

The fact is we want to get rid of those weapons. We should do that sooner rather than later. If, for reasons we don't now anticipate, incineration is not acceptable, we have to have an alternative. That is what the Academy has recommended and that is what the Army will have to do.

General BUSBEE. If I could add one last note on that. I believe there is every expectation that the Army will pursue an alternative R&D effort—the National Academy of Sciences has a great deal of prestige. They are recommending a neutralization-based alternative, which they feel may show the breakthrough. If the Army were to turn its back on their position and say, we have something that works now, just trust us and depend on us, I think we would face even greater opposition in getting our permits for our future sites, than if we go forward at least to the decision point, 18 months to two years from now. At that point we think we can definitively answer the questions—is it safer, is it more cost effective; can it meet or exceed the current environmental requirements; and finally can it remove the impediments that an individual State or a future EPA regulation may place in our pathway.

Mr. McDADE. Those are good answers. Thank you very much.

ENVIRONMENTAL PERMIT ISSUES

Mr. MURTHA. Mr. Visclosky.

Mr. VISCLOSKY. Thank you, Mr. Chairman.

Gentlemen, you have a very difficult problem. I really respect the work you do, having a lot of negotiations with the environmental community, with the steel industry and oil refineries in our district, I can only image the quantum leap of magnitude of people's concerns regarding your work.

You don't have an environmental permit at Anniston yet, do you?

General BUSBEE. No.

Mr. VISCLOSKY. What is the likelihood that Alabama will give you one or not give you one?

Maybe it was part of the conversation when I was absent. What happens if the States finally say, we don't want to do that here? What are our reasonable alternatives, barring some other technology?

Dr. SMITH. I have been working closely with Congressman Browder, and I have met with the interested citizens and local officials. At this point, I think the odds are favorable to getting a permit. I would like to think your question might turn out to be hypothetical.

Mr. VISCLOSKY. You have a number of other sites, Indiana has a facility, not in my district, but you have to number of others. My sense is, it is only going to get worse for you, talking about delays. That is something to an extent that is out of your control, that whole permitting process.

Dr. SMITH. Let me take a not-too-optimistic view. I want to call your attention to the response of the supervisors in Tooele, Utah, where they already have destruction plans. Those supervisors representing the citizens and clearly their opinions are well-known in the press, asked the simple question, why not bring all your chemical weapons to Tooele for destruction. They were that pleased with what the Army had done. The Governor of Utah said, no. But nonetheless, the local citizens and their elected officials, the supervisors, were very impressed.

Let's assume we go ahead with Anniston. Then we have a pilot plan, a second generation plan, and a third generation plan. Suppose things do go well, as we think they will in Tooele. It may be simplistic that people in Kentucky will adhere to their present assumed position.

I think we don't want to engage in pessimism any sooner than we have to.

TRANSPORTATION OF CHEMICAL WEAPONS

Mr. VISCLOSKY. If things go well, is there—taking the optimistic view—a possibility we can defer some of our expense in continuing to build these facilities by transporting some of this? My sense is that is a political problem. Even if you have the Governor of Utah agreeing, you still have to get the munitions from Indiana to Utah. Is that just not practical from your experience?

Dr. SMITH. Let me respond to that question politically. Politically, it is my judgment that we will never be allowed to transport weapons. That is an unqualified statement.

Mr. WALKER. I agree completely with that.

Mr. VISCLOSKY. Let me ask you then about the non-stockpile chemicals. We have seen a couple of discoveries within the metropolitan area of Washington, the Army has done a study that was concluded last November. What happens as far as the transportation issue with those types of munitions that have been uncovered that are not a part of the original stockpile.

I assume the quantities are such that at the point it is not practical to build a separate facility. What is going to be the approach and what are the transportation and other problems we face here?

Dr. SMITH. That answer is much more technical and less politically explosive. I would like to turn to General Busbee or Mr. Walker on that.

General BUSBEE. That is a key concern of ours as we put a framework on the non-stockpile program. The issue of the discovered chemical weapons in the northwest District of Columbia obviously got everyone's attention. We had to move those weapons out. We recovered some 150 munitions. Only one third of those were suspect chemical munitions. The rest were inert, conventional explosive or smoke munitions.

We moved some of those to Edgewood, Maryland, for testing, to confirm our suspicions. In fact, several of those weapons had not functioned; but even though they were built in 1917—75 years old—they still contained hazardous amounts of chemical weapons. We moved others to Pine Bluff, Arkansas for eventual disposal.

Mr. VISCLOSKY. That is one of the other sites?

DISPOSAL OF NONSTOCKPILE MATERIAL

General BUSBEE. One of the other sites, and they are one of the few sites now in the United States that has permitted chemical weapons hazardous waste storage capability.

It is a site with Resource Conservation Recovery Act approval. It is our intent, and we are now putting together a programatic study for the non-stockpile program that parallels what we did in the 1986–1988 time frame for the stockpile.

It is our preference to dispose of those recovered munitions onsite where we can, if there is no immediate hazard to the aquatic environment or the nearby population. You clearly are not going to do that in the District of Colombia, in an urban neighborhood.

There are technologies out there that have been tested in the conventional ammunition disposal business. There are technologies available, which have been used to dispose of conventional ordinance on site for example in Kuwait City. Part of our budget request this year is for funds to adapt those technologies to the problem of chemical munitions disposal. When we recover one or two rounds at a location, we like to be able to dispose of them on site where they are found. And we will probably use neutralization. We do not forecast we would ever be able to fabricate, build, or permit a mobile incinerator that could go from site to site. But when you are talking small quantities, it gives you wider range of options with respect to how we can treat those items.

We have three active remediation projects going on right now, if you count the American University clean up project. They have completed the sweep of that entire 150 acre site and found no more hints of chemical weapons.

We have a project underway at the Virgin Islands. We have not faced the potential of having to move those items.

In the future, we may find another Spring Valley, in which transportation of a small quantity of munitions that have been rendered partially safe may be the only viable option that we will have. The Army will have to get State, county commissioner, mayor, FEMA, the sheriff's office, everyone's approval to take care of those problems on a case-by-case basis.

Mr. VISCLOSKY. So if you have small quantities, it can be done on site. If not, would Pine Bluff be the ultimate destination for most of these, or would that depend on future discoveries? I have not seen the November report. I apologize. Do you feel most of what is out there has now been found?

General BUSBEE. Most of what is out there is on Federal lands. It is on Army, Navy and Air Force bases, or at Defense Logistics Agency Depot. Our concern is those potential burial sites that have been turned over for civilian use to the Bureau of the Interior, Bureau of Land Management or other private interests. We have walked the ground, poked sticks in the ground, done radar penetrations at most of those sites. We have not found any of those sites posing an immediate safety or health hazard.

That is where we will continue to look at as we put this program together, to ensure those sites that have been turned over for general public use or total civilian domain are, in fact, clear or restricted in their use before the Department feels comfortable that we can walk away from that site, so to speak.

Mr. WALKER. I would only indicate there is a considerable difference in magnitude. At a place like Spring Valley, you may have two, half a dozen or a dozen. Just in M–55 rockets alone, we have a half a million.

Dr. SMITH. On the magnitude of the task, I will simply quote Secretary Perry, who takes a very intense interest in this program. He is fully aware of the magnitude. His advice to me was, it is the Lord's work, Harold, get on with it. And I think he is right.

Mr. VISCLOSKY. He is.

Thank you, Mr. Chairman.

Mr. MURTHA. Let me compliment Mr. Owens. He was acting director at the time we had the Spring Valley problem; the agency handled that very well. There could have been a lot more concern. Even though people were evacuated, they understood the importance of it. Everybody felt the sacrifice they were making was necessary for the procedures that were undertaken. I compliment you folks in the way that was handled, Mr. Owens in particular.

Mr. Skeen.

Mr. SKEEN. Thank you, Mr. Chairman. I am not going to get into a great dialogue here, but I have been sitting here listening to your dilemma and paralleling it with what we do with low level nuclear waste. It amazes me that a country as technologically adept as this one is, that our news media and general public has more of a "can't do" attitude about disposal of things of that kind, we have a terrible toxic problem in non-toxic waste in this country.

Are you going to have to go through the same process?

Dr. SMITH. Mr. Skeen, you have far more experience with the people than I have. But I was amazed in going out to Pueblo and just taking the time to listen to the farmers immediately adjacent, talking to them just as one neighbor to another. They would come up afterwards. They are willing to go ahead. The trouble is you and I here in Washington don't get much of a chance to listen to those people because they don't always speak up. What is here isn't always what is there.

Mr. SKEEN. That is absolutely correct. We have a community that wants to accept the responsibility, and all—but then you have the same crowd standing on the outside, saying we want to do it. The problem is we have got to. We have got to resolve these questions.

I understand your dilemma. I am sympathetic and would empathize with you on this situation, because you are going through exactly the same process we had to go through. We haven't gotten the answer yet. We have got a lab working on it for 20 years, and we can't get it open. Now, they want to do this business of moving it over to an above-the-ground lab. It is a problem. If you need any unsolicited advice, we will be happy to give you all what we have got.

Good luck to you and I appreciate the things you have to do, and the educational process is very frustrating. We know we can do it if they will just let us.

Thank you, Mr. Chairman.

Mr. MURTHA. For years Senator Campbell has had problems with the way the Army has handled the whole chemical demilitarization decision making process, and particularly with regard to Pueblo's mustard projectiles and rockets. He has asked me to submit a number of questions for the record. I will submit those and ask you to answer those so I can forward them on to Senator Campbell.

[CLERK'S NOTE.—Questions submitted by Mr. Murtha on behalf of the Honorable Ben Nighthorse Campbell, a Senator from the State of Colorado, and the answers thereto, follow.]

CANADIAN CHEMICAL WEAPONS PROGRAM

Question. It is my understanding that Canada specifically rejected incineration as a means of destroying what chemical weapons it has and instead opted to neutralize the chemical agents, including mustard gas. What is the status of Canada's program, how do its chemical weapons differ from ours, and can the U.S. adopt part of or all of Canada's program as an alternative to any part of the baseline incineration process?

Answer. It is not true that Canada specifically rejected incineration as a means to destroy its chemical weapons. Canada had a limited amount of chemical weapons and agent which they destroyed from 1974 to 1976 and 1989–1991. During the early 1970's, the Canadians destroyed about 700 tons of mustard agent by neutralizing it with lime. Most of the neutralized agent solution was then incinerated. A portion of the neutralized agent solution was spread on prairie land for further degradation. The neutralization process also produced a sludge which was to be buried. It took the Canadians about 3 years to neutralize the agent and 10 months to incinerate the brine.

In 1990, the Canadians destroyed 12 tons of mustard agent and 4 tons of neutralized nerve agent brine. The mustard agent was drained into heavy walled, polyethylene-lined cardboard boxes and left to freeze by exposure to the ambient winter air. Once frozen, the mustard-filled boxes were fed into a rotary kiln incinerator. It took about 4 months to neutralize the 0.3 tons of various nerve agents and 5 days to incinerate the 4 tons of the resulting neutralized nerve agent solution. In addition, the 375 tons of contaminated metal and 4 tons of dunnage was incinerated.

The Canadians used direct incineration to destroy mustard agent or the neutralized agent solutions. The Army baseline plant currently uses direct incineration to destroy both nerve and mustard agents. The Army evaluated the combination of neutralization of the chemical agents followed by incineration and concluded that it did not provide significant potential advantages over the baseline incineration process with the addition of carbon filters. However, the Army did recommend to Congress that a 2 technology, neutralization and neutralization followed by biodegradation, research and development program be implemented. These two technologies offered the best potential of being included in the current demilitarization plants at Newport, Indiana, and Aberdeen, Maryland, provided that a 5 year extension to the chemical weapons treaty is granted.

LEAKING MUNITIONS

Question. What kind of leaks, what percentage of the total stockpile at what sites, involving what kinds of munitions does the Army's reported 1,470 leaks represent?

Answer. ———.

PUEBLO DEPOT ACTIVITY

Question. Can the Pueblo stockpile be neutralized with current technology? Is it possible the Pueblo stockpile can be neutralized with technology in the foreseeable future?

Answer. The Pueblo stockpile consists of mustard-filled projectiles. As such, there are three major components which must be treated and disposed of: the energetic materials (fuzes and bursters), the metal parts (the projectile bodies themselves), and the agent itself. As stated in the National Research Council Report, "Recommendations for the Disposal of Chemical Agents and Munitions," 1994, there is no viable alternative technology for the treatment of metal parts or for the safe disposal of energetic material which are potentially contaminated with agent. This results in the need for two incinerator systems (the Deactivation Furnace System and the Metal Parts Furnace), and limits the discussion of "neutralizing the Pueblo stockpile" to "neutralizing the chemical agent."

As discussed in the Army's report, "U.S. Army's Alternative Demilitarization Technology Report for Congress," 11 April 1994, there is significant research required into the neutralization of munition-grade mustard agents. There is no technology available today which could be utilized to perform this neutralization. It is not clear if neutralization as a stand-alone technology can successfully complete the destruction process or if a second technology (biodegradation, for instance) will be required to complete the destruction process. Based upon the developmental requirements, it would not be possible to complete the destruction of the Pueblo stockpile within the current program deadline or within the current CWC schedule (even with a five-year extension).

It should be recognized that the NRC cautioned against deliberately delaying the disposal effort and stated that it was unlikely that any alternative technology would result in a decrease in the cumulative risk to the public. The Army's recommendation (to continue with the utilization of the baseline technology supplemented with carbon filtration without deliberate delay while performing research into neutralization-based alternatives) is consistent with the NRC's recommendation.

Question. What is the condition of the Pueblo stockpile? How many munitions leaks have occurred over what period of time and what percentage of the munitions in the Pueblo stockpile do those leaks represent? When was the last time the Pueblo stockpile was inspected for leaks?

Answer. The Pueblo Depot Activity chemical agent stockpile is in good condition. It is one of the more stable chemical stockpiles. Pueblo Depot Activity stores only mustard agent, which is one of the more stable chemical compounds. ——— The stockpile inspection process is a continual, ongoing process. All munitions are visually inspected on a cyclic schedule. The entire stockpile is visually inspected once every 11 months. Additionally, air samples are drawn from each igloo on a quarterly basis.

Question. The Army states that the baseline incineration process, if used, will vary from facility to facility based upon the composition of the inventory of chemical agents and munitions in each site's stockpile. How would Pueblo's facility differ from JACADS and Tooele Army Depot?

Answer. Pueblo's stockpile only mustard-filled projectiles so some of the munition handling found in other plants will not be needed. For example, since there are no rockets or ton containers, the rocket punch and drain equipment, the deactivation furnace system cyclone, and bulk drain stations are not included. However, the four basic types of baseline incinerators will be necessary to process the various waste streams generated by the disassembly and draining of the munitions.

ELECTROCHEMICAL OXIDATION SYSTEM

Question. Is the Army aware of the AEA electrochemical Oxidization System that has been developed in Scotland by SubSea Offshore, Ltd.?

Answer. Yes. The AEA Technology initially developed the Silver II electrochemical process to destroy the radioactive waste tributylphosphate/kerosene mixture produced during nuclear fuel reprocessing operations at Dounreay. The AEA process was reviewed by the NRC and described in their June 1993 report. More recently, AEA technology has demonstrated "proof-of-principle experiments in which they destroyed various chemical agents".

EMISSION LEVELS AT THE JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM

Question. The Army reports that emissions levels at JACADS were below current federal environmental regulatory limits. The OTA in 1992 expressed concern that as the Clean Air Act does not apply to JACADS, the Army was not collecting data to demonstrate compliance with this act, but the continental U.S. sites are covered by the Clean Air Act. Does the Army's findings on emissions levels include compliance with the Clean Air Act?

Answer. Although the Clean Air Act is not applicable at JACADS, the perimeters were monitored. This performance data is used in the Clean Air Act applications for CONUS sites for projecting performance of the systems. However, emission limits are state and often source specific, frequently determined by Best Available Control Technology and applicable state regulations.

DISPOSAL OF RUSSIAN CHEMICAL WEAPONS

Question. Chances are Russia might not even be able to meet a 2010 deadline for destruction of its chemical weapons stockpile. What is the Army's assessment of this possibility? Is it in the best interests of the United States to push ahead with destruction of its own stockpile, or would it be preferable for the U.S. and Russian to proceed at roughly equivalent rates of destruction?

Answer. Senior Russian officials who are familiar with their chemical weapons destruction program have stated that the Russians intend to meet their destruction obligations as defined in the Chemical Weapons Convention (CWC). Based upon the current status of their program, however, it is realistic to expect that the Russians will require more than 10 years after the CWC enters into force. The U.S. plans to destroy its chemical weapons stocks using the baseline incineration method, on the destruction schedule mandated by public law and the CWC. In this regard, the U.S. will not proceed at roughly equivalent rates with Russian chemical weapons destruction. To wait for the Russian chemical weapons destruction to catch up with our own program would be costly and inefficient. Additionally, it would be counter to the recommendation of the National Research Council of the National Academy of Science which concluded that destruction of the U.S. chemical weapons stockpile should proceed without delay. Destruction is considered safer than continuing to maintain the stockpile indefinitely.

Question. What are the problems that Russia faces in establishing a comprehensive plan to meet CWC requirements? Do those problems include the possibility that Russia may not ratify the CWC.

Answer. A senior Russian Ministry of Defense official has recently told us that the comprehensive chemical weapons destruction plan is in the process of final approval before submission to the Duma. The Russians have admitted the extreme financial difficulties that they face in funding for chemical weapons destruction. However, the Russian government fully realizes the importance attached to their ratification of the CWC.

Question. What is the Russian government's views on baseline incineration? Army officials have admitted to my office that cryofracture is actually preferred as a means of dismantling the weapons, although no official Russian position has been taken. What does the Army know in discussions with their Russian counterparts about Russian attitudes toward cryofracture vs. baseline disassembly.

Answer. The Russians have shown indecision in the selection of any destruction technology. Their concern on using incineration is based solely on the fear of public opposition not on any technical merit. The Russians admit that incineration is the only safe and efficient destruction method available for use without investing significant time and money in an extensive research and development effort. The senior Russian officials that we work with have expressed no particular interest in using cyrofracture in their destruction process. Rather, as their munitions do not contain explosive components, the process of removing and separating the chemical agent from the munition body is simple and straight forward. Similarly, our baseline disassembly method was specifically designed to remove explosive components from U.S. munitions and is not applicable for use by the Russians

DEMONSTRATION PLANT FOR ALTERNATIVE TECHNOLOGY

Question. The Army calls for a full-scale demonstration of any alternative demilitarization technology at the Chemical Agent Munitions Disposal System (CAMDS) in Utah. Why must this demonstration plant be built at CAMDS? What factors prevent the construction of an alternative technology demonstration plant at one of the other sites, or use of existing university or private sector demonstration plants?

Answer. The NRC in its report, "Recommendations for the Disposal of Chemical Agents and Munitions," 1994, recommended that full-scale pilot testing be performed at CAMDS. CAMDS was specifically recommended by the NRC in recognition of the specific features at CAMDS, which include:

(1) Adequate vapor and liquid containment sufficient to support large-scale work with munition-grade agent.

(2) A workforce trained and familiar with working with chemical agents.

(3) Presence of existing facilities (such as ventilation systems, disassembly systems required for access to the agent itself, and control rooms) which should significantly reduce both the cost and schedule for implementing the pilot program.

(4) The existence of the Tooele stockpile, which has a representative stockpile of agent types and containers for supporting pilot testing.

Any pilot facility (be it CAMDS, at a different site, or at an existing university or private sector must meet the stringent requirements for agent containment and must utilize a workforce trained in the handling of chemical agents. If CAMDS were not utilized, the cost of the pilot program would significantly increase, and the schedule would be delayed for design and procurement of this type of equipment, for construction of adequate facilities, and for the hiring and training of a new workforce to execute this program.

Additionally, the use of a different site may require shipment of agent in quantities significantly greater than the small-scale shipments involved in laboratory/bench-scale research. The shipment of large quantities of chemical agent (possibly through states that do not have stockpile storage sites and possibly to sites which do not have stockpile storage sites) would require careful review and study and may require development of an overpack sufficient for off-post transportation. The Army is currently precluded from studying movement of stockpile items.

It should also be recognized that the time required to gain the necessary environmental permits may be impacted if pilot testing is scheduled for a new location. State of Utah regulators have regulated research-related activities at CAMDS since May 1991 (when the first Resource Conservation and Recovery Act permit went into effect; although CAMDS has been in an operational mode since 1979) and are experienced with agent-related issues and research programs involving chemical agent. It is not possible to assess the impact of involving new regulators unfamiliar with chemical agent requirements.

PERMIT APPLICATION

Question. Once the Army decides to proceed with the construction of a chemical demil facility at any given stockpile site, the process of applying for permits begins. Before actually receiving these permits, is any construction or other site work begun? If so, what?

Answer. No site work or construction associated with the stockpile disposal program will commence without obtaining the necessary environmental permits first. Certain depot support projects (such as roads, utilities, laboratories, laundry/changehouses, and maintenance buildings) are needed at some of the storage sites to ensure that safe storage conditions can be maintained until disposal plants are built at those sites. The Army considers those projects on a case-by-case basis and will obtain approval from the appropriate State authorities before construction or upgrade of existing facilities begin.

SITE-SPECIFIC ANALYSES

Question. I understand the Army wants Congress to provide congressional direction by August, 1994, so the Army can prepare a revised chemical demilitarization plan by August. However, the Army is also supposed to be conducting site-specific analyses to determine what kind of technology to use at each site. Does the Army intend to complete all of its site-specific analyses before August, 1994? If not, how can the Army come up with a plan for each of the sites based upon the site-specific analyses if it doesn't have the benefit of them?

Answer. The Army is committed to continued site-specific analysis for each site. However, it must be understood that the current plan is based on an award of one facility, Anniston Army Depot in FY94; two facilities, Umatilla Army Ammunition Plant and Pine Bluff Arsenal in FY 1995; and one facility per fiscal year thereafter. Site-specific analyses will be done for each site at least prior to contract award. It also must be noted that the National Research Council has stated, and the Army agrees, that substantive changes to the program are not probable based on the updated risk analyses.

TOOELE CHEMICAL DISPOSAL FACILITY

Question. The OVT's conducted at JACADS revealed a number of flaws in the operation of the baseline incineration plant, including a significant amount of worker activity in areas where the system is supposed to work by automation (2,269 recorded entries of workers into contaminated areas wearing protective suits). If such activity was necessary at Pueblo, it has been calculated that such entries could be between 50,000 and 100,000, which means far more possibilities of accidents. To correct these and other problems, engineers have apparently incorporated a number of changes to the baseline facility at Tooele. How long has the Army operated the Tooele plant with the new procedures? How many mustard munitions have been destroyed using the new process? Has the Army fully tested the performance of these "fixes" with respect to human intervention? Will a report be made available analyzing the success or failure of these changes at Tooele?

Answer. 1. Johnston Atoll Chemical Agent Disposal System (JACADS) is a full scale prototype facility and many of its systems were operated for the first time in toxic environment during the Operational Verification Testing (OVT). Reasons for entries made into the toxic areas of JACADS during the OVT were to do equipment maintenance, to address equipment problems and to address problems associated with first time dealing with peculiar properties of chemical munitions and agents. Equipment design improvements such as design modification of multipurpose demil machine and projectile mortar disassembly machine and operational lessons learned from those toxic entries have been implemented at JACADS and are being implemented at Tooele Chemical Agent Disposal Facility (TOCDF) and in design of the future demil facilities. It is expected that the number of toxic entries required at TOCDF and in future demil facilities will be significantly less than that had it not been lessons learned from JACADS during the OVT. Thus, the number of toxic entries (50,000–100,000) estimated for Pueblo is not reasonable or supported by subsequent experiences of JACADS.

2. Most of the lessons learned from JACADS applicable to TOCDF have already been incorporated at TOCDF and the remaining applicable lessons learned are scheduled to be incorporated in the near future before start of toxic operation.

3. TOCDF is currently in an 18 month systemization phase which started in Aug 93 and is scheduled to be completed in Mar 95 before start of toxic operation. Currently, all systems are being debugged and the plant is scheduled to be operated in an integrated mode before the end of the systemization phase.

4. No chemical agent or munitions has been or will be processed in the TOCDF during the systemization phase.

5. During the systemization phase all equipment with their modified design and revised operating procedures are being debugged and their performance is being tested. Corrections to equipment design and operating procedures are being made, where needed.

6. Lessons learned from JACADS incorporated in TOCDF will be proven out for their success or failure during the upcoming surrogate and agent trial burns and will be reported in the test reports. All of these lessons will be applied at the proposed facility at Pueblo.

[CLERK'S NOTE.—End of questions submitted by Mr. Murtha on behalf of Senator Campbell.]

Mr. MURTHA. Thank you, gentlemen. There will be additional questions for the record.

The Committee will adjourn until ten o'clock next Wednesday.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow.]

PROGRAM SCHEDULE AND COST

Question. What events or circumstances would cause your current estimates of cost and schedule to change further?

Answer. The current estimates for the Chemical Stockpile Disposal Program would change if the program were delayed. Program delays could result from any one or a combination of the following: Congressional directions, affordability decisions, lower processing rates or longer downtimes during disposal operations than currently estimated, Resource Conservation and Recovery Act (RCRA) permits approval, or public opposition and/or litigation. Additionally, implementation of an alternative technology that is not consistent with the criteria established in Public Law 102–484 would also change program cost and schedules. Phase II of the decommissioning program will also increase costs if total dismantlement of the disposal plants is ultimately required.

Question. Last year, you stated that a new life cycle cost estimate and program schedule would be submitted this spring after the Army evaluated the alternatives technology report. The Army's alternative technology report was submitted on April 11. When will we see a revised cost and schedule?

Answer. Revised life cycle cost and schedule estimates will be finalized this summer after the impacts of alternative technology program implementation and results of the dismantlement cost study are incorporated. A revised concept plan, to include updated life cycle costs and schedules, will be submitted to Congress in the October 1994 timeframe following an Army Systems Acquisition Review Council approval and Office of the Secretary of Defense review.

NATIONAL RESEARCH COUNCIL RECOMMENDATIONS

Question. Last February, the National Research Council completed a comprehensive review of the Army's chemical weapon disposal program, including ten pages of specific findings and recommendations. Last week, the Army submitted its response to these recommendations, as required by law. Summarize the recommendations which were not accepted by the Army and provide a complete list, along with rationale, for the record.

Answer. The National Research Council (NRC) report contained 21 specific recommendations to the Army. After careful review and analysis, the Army has accepted the vast majority of the recommendations of the NRC. The specific alternatives recommended for research have been modified from that discussed in the NRC report. Specifically, the Army has recommended a two technology program focusing on neutralization (as a stand-alone technology) and neutralization followed by biodegradation. This recommendation was based primarily upon the following factors:

Congress established three criteria which all had to be satisfied for the use of alternative technology—namely, significantly safer, cost neutral, and completing stockpile destruction in 2004. The Army constructed a research and development plan for four technologies and concluded that none of the Congressional criteria could be met with increased program costs in excess of $1 billion. Therefore, given that the criteria could not be met, the issue centered around what would be a responsive and responsible recommendation with regard to alternative technologies. It is felt that a two-technology neutralization-based alternative approach can answer the questions, for once and for all, if another process is significantly safer and provides a back-up technology for bulk-only sites.

Two of the four technologies recommended by the NRC (neutralization and biodegradation) are fundamentally different from the other recommended alternative technologies and from incineration in that they operate at low temperatures and pressures. They have less challenging operating conditions, simpler process and facility design requirements, and an almost nonexistent possibility of forming certain key contaminants of concern such as dioxins and furans. Several Citizens' Advisory Commissions have expressed a preference for low temperature and pressure systems.

Providing the two recommended alternative processes prove to be viable technologies, the development program contained in the Army report could only meet the Chemical Weapons Convention (CWC) destruction schedule if a 5-year extension is requested and obtained and if the application of alternative technologies is limited to the two bulk-only sites. This would not be the case for the remaining alternatives (wet air oxidation or supercritical water oxidation). The Army is not requesting a 5-year extension to the CWC at this time.

A summary of the twenty-one recommendations and the Army evaluation of each recommendation was forwarded by letter on May 23, 1994, to the Subcommittee on Defense.

Question. Summarize the major recommendations which were adopted by the Army and identify the unfunded costs (fiscal year 1995 and total program) for each one requiring additional funding. Provide a complete list for the record.

Answer. The Army report contains seven major recommendations:

1. The Chemical Stockpile Disposal Program should continue without deliberate delay with utilization of the Baseline technology.

2. Risk assessments should be updated based upon the most recent methodologies and utilize updated data. Possible reconfiguration programs should be reviewed in terms of their impact on reducing the risk to public health and safety. The program should not be delayed pending completion of these updates.

3. The evaluation of carbon filtration should continue with demonstration testing on two incinerator systems at Tooele. Efforts for implementation at all other Chemical Stockpile Disposal Program sites should be initiated.

4. The governor of each state with a storage site and various commercial hazardous waste firms should be contacted to determine if a viable receiving site for neutralized products can be identified.

5. An enhanced public outreach and involvement program should be implemented to include the formation of site offices at each storage location.

6. An enhanced stockpile surveillance program should be implemented for M55 rockets. In addition, a program to address the possible pressurization of mustard items and munitions should be initiated.

7. A research and development program into the two low-temperature and pressure neutralization-based alternatives (stand-alone neutralization and neutralization followed by biodegradation) should be implemented in parallel with the current program activities. This program is targeted at developing a replacement technology as the primary means of agent destruction for potential application at the bulk-only sites.

Unfunded costs required in the Chemical Agents and Munitions Destruction, Defense (fiscal year 1995 and total program) to implement the Army's recommendations are summarized in the following table.

[Current year—dollars in millions]

Recommendation	Unfunded Costs, 1995	Total program
Update Risk Analyses	3 (O&M)	$10
Implement Carbon Filtration	78 (PROC)	297
Enhanced Stockpile Surveillance Program	5 (O&M)	17
Enhanced Public Outreach Program	2 (O&M)	26
R&D Program	[1] 9.4 (R&D)	[2] 232
Total	97.4	[3] 582

[1] Total requirement for 1995 is $25.2 million; however, $15.8 million for fiscal year (FY) 1994 research and development (R&D) funds are available for FY 1995 requirements, if $25 million appropriated in FY 1994 for alternative technology and cryofracture R&D is authorized.

[2] A total of $20.7 million of FY 1994 R&D funds are available for FY 1994 and FY 1995 requirements. Unfunded costs are $211 million.

[3] If site activities are delayed at the bulk-only sites, additional costs (extended stockpile storage, Chemical Stockpile Emergency Preparedness Program, and inflation) above this total will be incurred.

RESEARCH ON ALTERNATIVE TECHNOLOGIES

Question. The 1993 Defense Authorization Act required the Army to report to Congress on potential alternatives to the baseline disassembly and incineration process for the destruction of chemical weapons. Among other things, the Army was to respond to recommendations of the National Research Council concerning alternative technologies. The NRC report basically endorsed the baseline technology but recommended that "a substantially accelerated and expanded" research program be undertaken on agent neutralization technology for possible application to low volume sites. The Army's response to the NRC recommendations was submitted last week.

What are the advantages of neutralization if it proves to be safe and effective?

Answer. Following are the advantages if neutralization proves safe and effective:

1. Neutralization processes are used extensively in the chemical industry, providing a large base of operating experience.

2. Batch reactors permit extended reaction times to ensure complete destruction prior to release.

3. Neutralization should not produce key contaminants of concern such as dioxins or furans and also does not produce nitrous oxides or sulfur oxides.

4. A neutralization process would reduce the volumetric rate of air emissions compared with the baseline liquid incinerator (based on the same agent feed rate); however, it will create increased liquid discharges.

5. As a low-temperature and pressure system, neutralization systems have less challenging operating conditions, and therefore, simpler process and facility design requirements.

6. As a low-temperature and pressure alternative, neutralization-based technology is more acceptable to the public.

Question. Last year, the Committee added $25 million to your budget for research on alternatives to baseline technology, including, if appropriate, cryofracture. The Army was directed to present its plan for the use of these funds for approval. How do you propose to use these funds and when will your plan be submitted to the Committee?

Answer. The Army proposes to use $4.3 million for completion of the cryofacture process design. The Army proposes to use the remaining $20.7 million for research on alternative technologies. The Army's plan will be submitted by end of Jun 94.

Question. What changes, if any, do you recommend in your 1995 research budget to implement your response to the NRC report?

Answer. The Army recommends that $9.4 million be added to the President's 1995 Budget Request for R&D of alternative technologies.

Question. ARPA recently reported that it had demonstrated destruction of GB and VX nerve and mustard agents to greater than 99.999999% using technology called hydrothermal oxidation utilizing super critical water. This process is reported to be safe for the destruction of hazardous waste in a compact, single stage process with complete containment of effluents. Further, a transportable prototype unit is scheduled for completion by the end of 1994. Is this a process with which the Army is familiar and is it a process which should be further developed in a pilot facility, possibly in conjunction with the destruction of Russian munitions? Please comment.

Answer. The Army is aware of and is following the progress of the ARPA supercritical water oxidation project. The results that are stated arose from a small laboratory reactor which destroyed approximately 15 milliliters of agent in a 1% solution. In April, the small laboratory reactor demonstrated its ability to destroy mustard agent. The results are still being analyzed.

The NRC evaluated various potential technologies and recommended that neutralization followed by supercritical water oxidation be considered as a destruction process. In its report, the Army developed an R&D program which would be required in order to implement this technology into the Army's disposal program. The state of the ongoing industrial research efforts were considered during the development of the program; the schedule was shortened considerably because of these efforts. Key areas that needed to be explored included the degree that the agent needed to be neutralized prior to the supercritical water reactor; determination of materials of construction of the reactor; and analyze reactor/equipment plugging due to salt formation. Based on these and other considerations such as environmental permitting, the Army projected that this technology would complete pilot testing and be ready for implementation into a full-scale industrial disposal facility no sooner than the year 2004. Because of this long development time and the high pressure, corrosive characteristics of this technology, the Army opted not to include this technology in its R&D program.

Concerning its potential for use in conjunction with the destruction of Russian munitions, two factors are important. First, the composition of the Russian stockpile is significantly different than that of the United States. Up to 25 percent of the Russian stockpile is composed of lewisite and a lewisite/mustard mixture. Both of these agents contain large amounts of arsenic. These compounds would have to be added to the research program in order to assess the effectiveness of the process. Second, the Russian environmental regulatory requirements would affect the duration of the development program. The United States developmental schedule put together by the Army is driven by the necessity to obtain pilot-scale and full-scale environmental permits. The impact of Russian environmental requirements on the developmental schedule cannot be assessed at this time.

CHEMICAL WEAPONS WORKING GROUP

Question. The Chemical Weapons Working Group describes itself as "an international coalition of citizens living near chemical weapons storage sites in the United States, the Pacific and Russia who will be most affected by the disposal of these munitions." Its mission is to oppose incineration of chemical weapons as an unsafe disposal method. It has responded to the NRC alternatives study with a series of recommendations, including: separate chemical agents from containers and weapons; neutralize and store the agents on site; begin a vigorous research program to identify a way to safely and economically dispose of the neutralized agent; and decontaminate and destroy/store the weapons and containers.

Are you familiar with these recommendations? What is your response to them?

Answer. The most significant issue with the Chemical Weapons Working Group (CWWG) recommendations is that it appears CWWG has greatly overestimated the current status of the neutralization technology.

As stated in the NRC Alternative Technology Report, "neutralization of GB has been carried out on a large scale, but neutralization of VX and HD has been held up by the low water solubility of these agents and low reaction rates. Encouraging research results have been obtained, and research is continuing in the belief that solutions to these problems are possible." The Army agrees with the NRC assessment of the status of the neutralization technology.

The NRC Alternative Technology Report also states, "alternative technologies for the liquid incinerator (neutralization) could be ready for full-scale pilot testing in 3 to 7 years with a well-funded, well-staffed program, although delays in obtaining required permits for testing and for disposal operations might significantly delay implementation. In considering alternatives to the baseline system, any potential decrease in disposal risk needs to be balanced against the increase in accumulated storage risk that would result from any associated schedule delay." The Army does not completely agree with the aggressive schedule assumptions of the NRC report. Concurrent development programs are inherently risky. The General Accounting Office (GAO) has reported that "it could take until about 2007 to 2011 before they (alternative technologies) could be used to begin destroying the chemical weapons stockpile."

The Army Alternative Technology Report further defined the research and development requirements to determine the viability of neutralization for full-scale demilitarization of VX and HD at the two bulk-only sites (Newport and Aberdeen). The CWC deadline for stockpile destruction is currently forecast for January 2005. Based upon its developmental requirements for stand-alone neutralization or neutralization followed by biological treatment, providing the technology proves to be a viable technology, stockpile destruction using either technology, at any site, could not be completed within a January 2005 deadline. However, if a 5-year extension is requested and obtained, stand-alone neutralization or neutralization followed by biological treatment could be utilized at the two bulk-only sites within an extended (January 2010) deadline. The administration, the Army and the NRC do not support artificial extensions to the disposal program.

Another significant issue which could arise with the CWWG recommendations and have an impact on neutralization without complete disposal (since another process must still be used to destroy or treat the energetics, metal parts and dunnage generated by munitions downloading) is that of compliance with RCRA and other environmental requirements. The issue relates to starting the treatment process then putting the in-process wastes into long-term storage pending final disposal processing. Specifically, under current regulations, final treatment must be completed within a year (40 CFR 268.50, Subpart E). It is unlikely that a State or the Environmental Protection Agency (EPA) would grant a waiver for large volumes of hazardous waste which will be generated by the neutralization process.

Given the current status of the neutralization technology (or any alternative technology), the Army Alternate Technology Report concludes:

> The Army recognizes that the concerns expressed regarding incineration are not limited to the two bulk-only sites. According, the Army will review the results from the laboratory/bench-scale program to determine if the technologies demonstrate the potential for a significant improvement either in safety or environmental performance. It is conceivable that the Army would recommend the expansion of the RDT&E program for possible application to other CSDP sites if the projected improvements are such that they outweigh the increased risk from the extended stockpile storage. However, it must be recognized that the NRC has concluded that the likelihood is not high: "* * * time and money spent in search of a better technology are likely to result in program delays and increases in cumulative total risk, whatever the characteristics of any new technology. Although this conclusion remains to be confirmed with updated risk analyses, the existing evidence is strong enough to recommend that the disposal program proceed in parallel with the analyses and without deliberate delay."

Question. The Group claims that Arthur D. Little did a study in 1985 that showed how to remove agent from M55 rockets in a closed loop system and decontaminate the rocket parts to a safe level.

Are you familiar with this study?

Answer. The study, which was sponsored by the Army to examine contingencies if data should reveal a rapid deterioration of the M55 rockets, provided initial information on a preliminary concept for separating the lethal nerve agent from the rocket's energetic components. This preliminary concept study provided the following: narrative description of the M55 rocket separation concept; plan drawing of a conceptual M55 rocket separation facility; preliminary list of major process equipment items for the concept; preliminary estimate of personnel requirements for the concept; preliminary life cycle cost estimate (LCCE) for the concept; initial assessment of risk associated with the concept; initial assessment of risk associated with the storage of agent removed from the rockets; and initial qualitative analysis of the environmental impact of the M55 rocket separation concept.

The concept discussed in this study deals with the removal of the rocket motor, draining of agent from the warhead, chemical decontamination of the metal parts, and storage of the separated components. The study did not address any treatment (i.e., neutralization) of the drained agent. At the time of this study, the entire Chemical Stockpile Disposal Program (CSDP) was at the preliminary concept stage of development. Based upon the recent renewed interest in this concept, the study will need to be evaluated in light of the program experience since 1985. Information available today will change many of the estimates in the initial study. There were many key assumptions made which have yet to be verified or have changed and could significantly impact the estimates contained in the study. These assumptions include:

The neutralization reactions were assumed to be effective based upon theoretical chemical reactions with no definitive experimental database to support the supposition of the effectiveness of the decontamination process. Should none of the theoretical chemical decontamination reactions prove practical, then the entire concept would become technically infeasible.

All mechanical equipment designs located downstream of the operations of draining and cutting the rocket are based on engineering judgment and limited practical experience. The assumption is that the equipment and its operational effectiveness is feasible. The preliminary concepts would require detailed engineering design of critical mechanical equipment followed by prototype fabrication and verification testing.

The report did not address considerations of interim storage, transport or disposal of the residues from the operation.

The maximum credible event (MCE) for the rocket separation concept was not defined in the report. Depending on the MCE definition, the qualitative assessment of environmental impacts need to be reevaluated.

The initial personnel requirements and initial LCCE in the study were based upon best available information in 1985. When the study is reevaluated, these estimates will increase significantly.

For example, based upon similar information, the life cycle cost estimate for the entire CSDP was around $1.8 billion during that preliminary concept phase of the program in 1985. As more definitive information and experience was gained with the CSDP since 1985, the LCCE has increased to nearly $9 billion.

The risk assessment contained in this report was conducted before the comprehensive risk assessment contained in the Final Programmatic Environmental Impact Statement and did not receive the detailed review and evaluation necessary to validate its results.

In summary, the limitations of this concept study are significant. These are summarized in the abstract of the study: "The M55 rocket separation concept described in this report is in an extremely early stage of development. The designs of some portions of the concept (e.g., the M55 rocket punch, drain and shear operation) are based on proven technologies while the designs for other portions (e.g., the decontamination operations) are based on engineering judgment and limited practical experience. Thus, this concept design should be viewed as preliminary in nature. Pilot plant testing of the decontamination process would be required if this concept were to be implemented."

Question. What would it take, in terms of time and funding, to demonstrate the process described in this study?

Answer. Before the Army can begin estimating cost and schedules for the research and development program for M55 rocket separation the feasibility of the original concepts for decontamination from 1985 must be reevaluated and original study assumptions reviewed. Specifically, the Army needs to evaluate the study based upon experience since 1985. This evaluation of the study will be completed within the next 180 days.

The evaluation will utilize the risk analysis contained in the Final Programmatic Environmental Impact Statement so that the differences can be clearly noted.

At this time, it is estimated that the development times and costs for the equipment required to handle and decontaminate the rocket sections will be of the same order of magnitude as that for developing an alternative technology, requiring at least six years to progress from concept through pilot testing. The equipment development could be conducted in parallel with the Alternative Technology neutralization research and development, potentially, utilizing some of the neutralization research results in determining appropriate decontamination reactions. Funding requirements cannot be estimated with any degree of accuracy until the study update is completed this fall.

However, the scope of the alternative technology neutralization research (only addressing VX and HD) would have to be expanded to include GB decontamination. As stated in the M55 Rocket Separation Study, "the most widely used chemical GB decontamination method involves neutralization using an aqueous sodium hydroxide solution. However, when aluminum is present (as is the case in decontamination of M55 rockets), an undesirable side reaction occurs resulting in hydrogen evolution and the creation of an explosive environment." Both the VX and GB research would have to be expanded to address compatibility of the reactions with aluminum in the rockets. In fact, until the reevaluation of the study is completed, there is no objective evidence that the process outlined in the A.D. Little, Inc. study will be significantly safer than the baseline rocket destruction operation—it is conceivable, because of multiple handling steps for the rockets, that the overall risks will increase over what is essentially a one-step operation in the baseline process.

Question. Who funded this study and why was it conducted?

Answer. Based upon the interest expressed by citizens of Kentucky in the concept of separating the explosives and agent from M55 rockets, the Army contracted with Arthur D. Little, Inc. to study the concept of M55 rocket separation. The report was completed in 1985.

Question. Have the results of this study been used in any other subsequent study?

Answer. Yes, in 1987, the Army funded a Kentucky "independent study-review group to make the community's concerns, interests, and suggestions known to the Army * * * for possible inclusion in the Final Programmatic Environmental Impact Statement (FPEIS)." This subsequent study, "Report of the Kentucky Community Study Group," includes reviews and evaluations of Chemical Stockpile Disposal Program documents provided to the study group. The M55 Rocket Separation Study was one of the documents requested by and provided to the study group. The Kentucky Community Study Group was comprised of "five long-term residents of Madison County and area. All but one, had been actively, seriously and intellectually involved in the community concerns with the problem of the disposal of the Chemical Weapon Stockpile since the Army first announced its intent to do so in 1984."

The objectives of the independent Kentucky report were: "to review the studies and rewrites for the preparation of the FPEIS; to assure that community concerns were considered; and to provide timely and constructive input to the Final Programmatic Environmental Impact Statement (FPEIS), the Record of Decision and the site specific EIS for Lexington-Bluegrass Depot."

Although the M55 Rocket Separation Study was conducted in response to the expressed interest of the citizens of Kentucky and was used as a reference in the independent Kentucky report, there was no further citizen interest or support cited for the rocket separation concept in the independent Kentucky report.

None of the independent Kentucky report recommendations dealt with M55 rocket separation, even though the report stated, "consistent with the emphasis expressed by people and groups in this area, the Study Team has given additional attention to particular aspects of the total problem." None of the 11 recommendations in the independent Kentucky report pertained to the M55 Rocket Separation Study. With the lack of interest or endorsement from the independent community study group, no other studies since the Kentucky report have used the results of the M55 Rocket Separation Study. Since that time, the baseline process has safely destroyed over 30,000 M55 rockets at JACADS.

Question. Do you agree with the assertion of the Group that neutralization, but not disposal, of chemical agent would be compliant with the Chemical Weapons Convention?

Answer. The NRC, in assessing chemical neutralization as a stand-alone technology, concluded that it was unlikely that chemical neutralization could meet the CWC requirements for irreversibility. Recent laboratory work performed by the Chemical and Biological Defense Command (CBDCOM) has indicated some promise in meeting the strict requirements for irreversibility; however, the work is very preliminary in dilute solutions of pure agent. Old agent, in munitions and bulk containers, has impurities and break down products, which will not react exactly the same as pure agent in the laboratory.

Proposed implementation guidelines for the Verification Annex of the CWC would establish a new definition of "irreversible destruction." The new criteria would significantly increase the likelihood of stand-alone neutralization meeting the CWC treaty requirements for irreversible destruction.

Another issue could arise which may have an impact on neutralization without complete disposal. This would be that of compliance with RCRA and other environmental requirements in terms of starting the treatment process then putting the in-process wastes into long-term storage pending final disposal processing. Specifically, final treatment must be completed within a year (40 CFR 268.50, Subpart E).

Also, it should be noted that the schedule for the neutralization development will have significant impacts. The CWC deadline for stockpile destruction is currently forecast for January 2005. Based upon the developmental requirements for stand-alone neutralization, stockpile destruction using neutralization at any site could not be completed within the January 2005 deadline. However, if a 5-year extension is requested and obtained, stand-alone neutralization could be utilized at the two bulk-only sites within the extended (January 2010) deadline.

Question. What would be the cost of the research program proposed by the Group to find a way to dispose of neutralized agent? How long would such a program take?

Answer. In the early 1970's, the Army neutralized 6,000 tons of agent GB by reacting the agent with sodium hydroxide. The neutralized wastes were subsequently dried to remove water, packaged in 55-gallon drums and sent to a licensed hazardous waste landfill for permanent storage. There does not appear to be any change in environmental laws or requirements that would not allow disposition of neutralized agents in this same manner. Therefore, the Army does not believe it is necessary to perform a research program to safely and economically dispose of neutralized agent as the use of a hazardous landfill is still feasible. The research and development program would be to develop a neutralized process, not fund a method to dispose of neutralized waste.

CITIZENS ADVISORY COMMISSIONS

Question. The 1993 authorization act directed the Secretary of the Army to establish a Chemical Demilitarization Citizens Advisory Commission in the three states where there are low volume storage and in other states where requested by the governor. What is the status of implementing this direction?

Answer. As of May 1994, Arkansas is the only state that does not have a Citizens' Advisory Commission (CAC); however, on May 13, 1994, the Governor of Arkansas issued a press release advising that a CAC will be established within the next 60 days.

Question. One of the recommendations of the NRC report was to strengthen communication with the public and to work closely with the Citizens Advisory Commissions. What does the Army intend to do to implement this recommendation?

Answer. The Army has proposed establishing information centers on or near all of the storage installations to provide a local interface point. As these centers are resourced and established, the Army will take the initiative to effect closer and more meaningful dialogue with the communities. The Army believes that we have been responsive to the CAC's, even though several states did not form a CAC until late in the alternative technology study. We are committed to maintaining a proactive dialogue with the CAC's and other state and local individuals, groups and interested agencies.

Question. The law requires that the commissions meet not less than twice per year with a representative from the Army. What is the actual frequency of the meetings of commissions?

Answer. Since the commissions have been formed, the following meetings have been attended by Army representatives.

Aberdeen Proving Ground: December 15, 1993, February 7 and April 25, 1994.

Anniston Army Depot : February 16, April 7, and May 16, 1994.

Blue Grass Army Depot: August 12, 1993, and May 12, 1994.

Newport Army Ammunition Plant: May 14, July 19, 1993, and March 9, 1994.

Pine Bluff Arsenal: None (no Commission)

Pueblo Depot Activity: February 18, March 15, and April 4, 1994.

Tooele Army Depot: September 23, 1993.

Umatilla Depot Activity: March 14 and April 20, 1994.

Question. The commissions are to discuss concerns about the ongoing chemical weapon disposal program. What concerns have the commissions communicated to you and how are you responding to them?

Answer. The major concerns expressed by the commissions are: future uses of the facilities; fear that other chemical weapons will be transported to their community; and long-term health effects of disposal operations. The Army has attempted to assure the communities that there are no plans to continue to use the facilities nor to transport chemical stockpiles. Additionally, the Army has committed to updating all risk assessments.

DISPOSAL OF RUSSIAN CHEMICAL WEAPONS

Question. What is the status of the Russian program to destroy chemical weapons?

Answer. The Russians are still in the planning phase, and to our knowledge, have not yet started destroying chemical weapons.

Question. Last year, Dr. Richardson testified that we had agreed to help the Russians develop a "concept plan" for their program. When will this plan be completed?

Answer. According to the most recent information presented to us, the Russian prepared concept plan is nearly complete and should be submitted to the Duma within the next month. The contractor's effort in assisting in detailed planning has been delayed. Dr. Richardson had every expectation when he testified last year that the Russians would quickly agree on the detailed statement of work required to select a U.S. contractor. Instead, over seven months of intensive negotiations lead by Dr. Harold Smith, Assistant to the Secretary of Defense (Atomic Energy), were required to obtain the Russian's agreement on a Plan of Work. The contractor will be selected by the end of May with work commencing in Russia by late June.

Question. What other things are we doing to assist the Russians in their chemical weapon destruction program?

Answer. Last June, we established a Chemical Weapons Destruction Support Office in Moscow. The office maintains daily, direct interface with the agencies of the Russian Federation involved in chemical weapons destruction. In September, six Russian scientists and engineers started a six month chemical weapons intern program run by the U.S. Army Chemical Material Destruction Agency at Edgewood, Maryland. This training program covered all aspects of chemical weapons destruction activities. In March 1994, the Department of Defense added $30 million to the basic support agreement. These funds are currently planned to equip an analytical chemical destruction laboratory. The laboratory will establish baseline environmental standards for the chemical destruction program and conduct a thorough testing program to ensure safety to both personnel and the environment during destruction operations.

Question. How much of the "Murtha-Nunn-Lugar" funding has been obligated for chemical weapon destruction and for what specific purpose?

Answer. The Department of Defense has currently agreed to commit $55 million to assist the Russian Federation with chemical weapons destruction. Equipping the laboratory could cost up to $30 million. $25 million is being used for the comprehensive implementation planning contractor, supporting the Moscow field office, paying the costs of the intern program, and several other minor initiatives.

Question. What additional "Murtha-Nunn-Lugar" commitments/obligations are anticipated in the next year and for what specific purpose?

Answer. The Department of Defense has tentatively programmed $30 million additional for chemical weapons destruction assistance in Fiscal Year 1995. Negotiations with the Russian Federation on the specific use for the funds have not been completed.

Question: The U.S. has been destroying chemical weapons at Johnston Atoll since July 1990 and will begin operations at a major facility at Tooele, Utah next year. When will the Russians actually begin destroying their chemical weapons?

Answer. The final, approved Russian chemical weapons destruction plan that contains this information has not been seen yet by the Department of Defense.

Question: What are the realistic chances that the Russians will be able to destroy all their weapons by the deadline established by the Chemical Weapons Convention? What is a more realistic timeframe for completion?

Answer. Senior Russian officials have stated on several occasions that they need foreign financial assistance if they are to meet the Chemical Weapons Convention deadline for destroying their chemical weapons stockpile. Until we have seen and evaluated the approved Russian chemical weapons destruction plan, any more realistic timeframe would be only conjecture.

ORGANIZATION CHANGES

Question: We understand that a major reorganization is underway to make the Chemical Stockpile Disposal Program a subordinate command within the Army Material Command. Please tell us about this and explain why it is being done?

Answer. This organizational change proposal implements directions of the Commanding General, U.S. Army Materiel Command (AMC), and the Army leadership to eliminate redundancy by consolidating chemical munition storage and chemical demilitarization and remediation missions, including emergency preparedness and chemical treaty compliance, with the non-medical chemical and biological defense research, development and acquisition mission of the Army. The merger will provide a single voice within the Army for all technical and management efforts on chemical/biological defense materiel and chemical remediation missions. It further enhances the Army's ability to deal effectively with major national and joint service chemical and biological defense programs which the DoD has assigned to the Army for execution. This unity of command and purpose will also enhance the confidence of, and communication with, the Office of the Secretary of Defense, Congressional staff, and the people. Under the reorganization, the Assistant Secretary of the Army for Installations, Logistics and Environment (ASA (II&E)) will remain the DoD executive agent and the Program Decision Authority (PDA) and as such will continue to provide program over-sight, planning, programming and budget execution guidance for all chemical demilitarization and remediation programs and the Chemical Stockpile Emergency Preparedness Program, which we execute in partnership with the Federal Emergency Management Agency.

Question: What are the milestones for implementing this plan?

Answer. Pending approval of the concept plan by Headquarters, Department of the Army, the U.S. Army Materiel Command plans to provisionally establish the Chemical Activity Commander at each of the chemical storage sites beginning in July 1994 and to formally stand up the new organization on or before October 1, 1994. It is envisioned that the merger will take a full year to complete.

Question: What role did Dr. Smith, his office, or other elements of the Office of the Secretary of Defense play in reviewing or approving this plan?

Answer. The concept plan has not been forwarded to the Office of the Secretary of Defense as of this date. In March 1994, the Commander, U.S. Army Chemical Materiel Destruction Agency, briefed the merger proposal to a Special Program Review conducted by the Principal Deputy Under Secretary of Defense (Acquisition and Technology). This meeting was attended by Dr. Smith and senior DoD staff principals who oversee major defense acquisition programs. In late April 1994, the plan was reviewed and returned to the Chemical and Biological Defense Command (CBDCOM) for resolution of issues addressed by the Department of Army staff. The plan will be resubmitted to the Department of Army on May 27, 1994 for formal approval.

Question: What cost savings result from this change?

Answer. The reorganization represents no immediate cost savings. In fact, the merger will appear to increase the total cost of the chemical weapons stockpile maintenance and destruction program by rolling up the heretofore separate Operations and Maintenance, Army/Defense Business Operations Funds, AMC and DoD costs to store, maintain, protect, and destroy chemical weapons. However, in reality the merger will permit a more accurate identification of the total cost of maintaining the chemical stockpile and chemical weapons destruction and enable the isolation of stockpile costs which have no bearing on Army readiness. As far as intangible cost savings go, the merger consolidates into one command all Army chemical financial management and program analysis, reducing transmission time and enhancing communications between customers and suppliers. Future cost savings are expected as the result of better planning between the demil program and the storage depots, many of which are scheduled for realignment or closure once the chemical stockpile is destroyed and the disposal plants have been cleaned-up or dismantled.

TOOELE CHEMICAL WEAPON DISPOSAL FACILITY

Question. The second chemical weapon disposal facility is located at Tooele Army Depot in Utah, where 42 percent of the stockpile is stored. Last August, an eighteen month "systemization" began. Systemization will test out all equipment and plant procedures using stimulants.

What is the status of the systemization program and how confident are you that it will be completed by February as projected?

Answer. The systemization field activities are on schedule with many of the Government demonstration tests having already been performed. Plant changes to include the JACADS "lessons learned" have been a challenge to the project schedule but have been manageable to date. Systemization activities are proceeding on schedule toward meeting the planned surrogate trial burn dates and the start of toxic operations in March 1995; however, the State of Utah is making no commitments in meeting the Tooele Chemical Disposal Facility (TOCDF) schedule requirements. All permit data required by the State of Utah has been submitted by the TOCDF project in a timely manner.

Question. What are the "long poles" in the systemization program; what things are most likely to cause the completion to slip?

Answer. The "long poles" are timely cooperation and permit approval by the State of Utah and incorporation of JACADS "lessons learned." The changes to include JACADS "lessons learned," can be managed efficiently and effectively within the schedule. The Army has signed a cooperative agreement with the State of Utah which provides funding (approximately $1 million this year) to augment their staff resources in order to deal with the volume of information and analysis required for a new Resource Conservation and Recovery Act (RCRA) operating permit.

Question. The NRC study of alternative technologies recommended that carbon filters be added to the main incinerator discharge system.

What are the intentions of the Army with respect to adding carbon filters to the main incinerator discharge system at Tooele?

Answer. The Army plans on installing carbon filters on the Deactivation Furnace (DFS) and on one of the Liquid Incinerators (LIC) at the Tooele Chemical Agent Disposal Facility as part of its planned demonstration test. The performance of these filters will be evaluated and the feasibility of future expansion of the filter system to full-scale application on all of the incinerators will be determined. Design, acquisition and construction efforts are being managed to facilitate expansion of the filter system to all of the incinerators. The NRC and the Army view the addition of carbon filters as a constructive enhancement to make a safe and demonstrated environmentally complaint system even safer. Therefore, we do not believe that the RCRA operating permit should be held up until the prototype system is procured, installed and evaluated at the Tooele facility.

Question. What are the milestones for implementing these recommendations?

Answer. The milestones for the implementation of the prototype installation and demonstration at Tooele are as follows: Filter installation at future sites (sites after TOCDF) will be integrated into the normal construction schedule.

Event	*Projected Completion Date*
Design	January 1995
Acquisition	November 1995
Installation	January 1996
Demonstration Test	January 1997

Question. How much will it cost to implement your recommendations and where are these costs included?

Answer. The total differential life cycle cost is estimated to be $260 million in constant FY 1994 dollars and $297 million in current year dollars. The FY 1995 budget was submitted before the program costs were defined. The FY 1995 Chemical Agent Munitions Destruction, Defense (CAMD,D) funding requirements total $78 million for the Tooele, Anniston, Umatilla and Pine Bluff Chemical Disposal Facilities. Additionally, FY 1995 Military Construction, Army costs total $18 million for the same sites. These new funding requirements were not included in the FY 1995 CAMD,D budget request.

Question. The NRC study also recommended that site-specific risk analyses be completed for each facility and the Army has noted that such an analysis is underway for Tooele.

What is a risk analysis?

Answer. A risk analysis is a study conducted for the purpose of estimating the risks associated with an activity or operation. The risk is defined in terms of probability of occurrence of an undesired event and the potential consequences of the event. The analysis is performed by breaking an activity down into its component parts in order to identify component or procedural failures that could result in an undesired event such as an agent release or an injury to a worker. The probability of failure of the components or procedures are then estimated in order to determine the overall probability of the undesired event. If it is determined that either the probability or the consequences of the undesired event are unacceptable, action is then taken to reduce one or the other.

Question. What changes to your current plan and program at Tooele might result from the risk analysis?

Answer. It is difficult at this point to project changes to the current plan and program at Tooele from the on-going risk analysis. However, it is fair to postulate that, based on the past risk analysis done for Tooele in the 1988 Programmatic Environmental Impact Statement and experience the Army has gleaned at Johnston Island, significant changes to the plan and program are not probable.

Question. When will it be completed?

Answer. There are two critical completion dates for the risk analysis. Tooele will first operate with M55 rockets and bulk items; therefore, the risk analysis is initially concentrating on these processes. It is expected that the results of this analysis as well as the stockpile risk analysis will be available in the September-October 1994 timeframe. The completion date for the other munition systems is September 1995.

Question. Do you intend to begin operations with agent before the risk analysis is complete? If so, why?

Answer. As explained above, the initial operations at Tooele are with M55 rockets; and the risk analysis for this particular munition will be completed prior to agent operations. This would be true of succeeding munition campaigns.

Question. How much will it cost and where are these costs funded?

Answer. The estimated cost for the risk analysis is approximately $4 million. The risk assessments at the follow-on sites will be significantly less than this amount since the Tooele risk analysis will be used as the “model.” These costs are funded from the CAMD,D appropriation in the FY 1994 Program Integration Support Line.

Question. The Tooele plant is supposed to implement all the “lessons learned” from Operational Verification Testing at Johnston Atoll.

How many changes are being made to the original design of the Tooele plant to incorporate lessons learned from JACADS? Highlight some of the major ones.

Answer. Forty-six engineering change proposals have been incorporated into the Tooele design as a result of JACADS lessons learned. Major changes include redesign of the deactivation furnace system heated discharge conveyor, addition of a pollution abatement system to the brine dryers and redesign of the liquid incinerator slag removal system.

Question. How much will these changes cost?

Answer. These changes resulted in $2.3 million in redesign costs, $1.8 million increase in equipment costs and $0.6 million increase in construction costs.

Question. How many lessons learned have not yet been incorporated and what is the schedule for their installation?

Answer. All major JACADS lessons learned have been incorporated at Tooele except the liquid incinerator slag removal system. The first slag removal system will be installed by August 1994.

Question. The 1988 life cycle cost estimate for Tooele was $466 million. As of last year, it had increased to just over $1 billion. What is your current estimate and why has it changed?

Answer. The Tooele estimate increased $200 million since last year for a revised total cost of $1.2 billion. Specifically, the estimate has increased due to a schedule extension resulting from the implementation of revised processing rates, changeover times and downtimes (based on lessons learned from Operational Verification Testing (OVT) and JACADS experience); the associated inflation; and incorporation of a three-shift 6 days/week operational schedule.

Question. What might cause these costs to increase further.

Answer. Environmental permitting actions; the acquisition and installation costs of charcoal filters on the stacks; as well as inclusion of the results of the on-going plant closure study definitizing the costs associated with dismantlement of the facility at the end of toxic operations could have significant cost impacts.

Question. Last year you stated that systemization would cost a total of $83 million, including $22 million for fiscal year 1994 and $15 million for fiscal year 1995. What are your current estimates of these costs and why have they changed?

Answer. The current estimate for systemization is $80 million. The FY 1994 and FY 1995 projections are currently $20 million and $14 million, respectively. These numbers were refined to reflect our latest estimate to complete planned systemization activities.

Question. What is the total estimated cost for the operations phase at Tooele?

Answer. The total estimated cost for the operations phase is $605 million. The systems contractor portion is $433 million, of which $38 million is for major spare/repair parts and modifications/equipment enhancements are Procurement funded. Other costs include support provided by the depot; environmental support; and contract administration and field office support.

Question. What are the current manpower levels at Tooele during systemization and what are they expected to be during operations?

Answer. The following represents manpower levels at Tooele:

Title	Systemization	Operations
Systems Contractor	370	440
Government Field Office	22	14
Government Support Contractor Field Ofc	20	20
TEAD (Host Installation)	12	151
TEAD (Reconfiguration Activities)	96	96
Total	520	721

Question. The O&M budget for Tooele increases from $37.5 million in fiscal year 1994 to $75.3 million in fiscal year 1995. Why?

Answer. The increase in the FY 1995 budget is attributable to the start of the operations phase, which includes an increase in staffing for both the systems contractor and the depot (support required) for both reconfiguration activities and operations), utilities, repair costs, supplies and materials, chemicals, and waste disposal as well as one-time costs of approximately $9 million for trial burns.

Question. What does the O&M budget assume with respect to the ending date of systemization? By how much can it be reduced for each month that the completion of systemization is delayed?

Answer. The budget is predicated upon a February 28, 1995 end date for systemization. Since ramp-up to support operations is currently on-going, any cost savings by delaying the start of operations would be negligible. In fact, there will be life cycle costs increases associated with Systemization delay.

Question. For the record, provide the milestones for the operational phase at Tooele, showing timeframes and types and numbers of weapons to be destroyed.

Answer. The following table lists the current schedule of operations including munition and agent changeover occurrences. Munition changeover periods (2 to 4 weeks) are included in the campaign durations listed. Agent changeovers are listed separately. Current campaign estimates are:

Campaign—Duration.

GB M55 rockets—March–November 1995 [deleted].

GB MK116 bombs—March–November 1995 [deleted].

GB/VX agent changeover—December 1995–January 1996 [deleted].

VX M55 rockets—February–April 1996 [deleted].

VX TMU28 spray tanks—February–April 1996 [deleted].

VX/HD agent changeover—May–June 1996 [deleted].

HD M110 projectiles—July–September 1996 [deleted].

MD M2A1 mortars—October–November 1996 [deleted].

HD/GB agent changeover—December 1996–January 1997 [deleted].

GB MC1 bombs—February 1997–March 1997 [deleted].

GB ton containers—April 1997–April 1998 [deleted].

GB M360 projectiles—May 1998–March 1999 [deleted].

GB M121 projectiles—April–June 1999 [deleted].

GB/VX agent changeover—July–August 1999 [deleted].

VX M121 projectiles—September–November 1999 [deleted].

VX ton containers—December 1999–March 2000 [deleted].

VX M23 mines—December 1999–March 2000 [deleted].

VX/HD agent changeover—April–May 2000 [deleted].

HD ton containers—June 2000–July 2001 [deleted].

Question. The National Research Council recently completed a report (Part II) on the Operational Verification Testing at the Johnston Atoll Chemical Agent Disposal System. The report presented recommendations for changes and improvements to the baseline system that should be implemented at Tooele prior to initiating agent and weapon destruction. Provide for the record, the Army's intentions with respect to each of these recommendations.

Answer. The National Research Council report, "Evaluation of the Johnston Atoll Chemical Agent Disposal System Operational Verification Testing Part II" provided six recommendations. Of these recommendations, four are general in nature and two are specific recommendations for changes and improvements to the baseline system that should be implemented at Tooele prior to initiating agent and weapon destruction.

One of the two specific recommendations is to "complete the risk assessment for the Tooele Chemical Agent Disposal Facility during the systemization period." This effort is currently underway and is scheduled to be completed in two phases. The first phase will address the first two operational campaigns both of which involve rocket and bulk processing. This portion of the risk assessment is scheduled to be completed in October 1994. The second phase of the risk assessment will address the projectile processing campaigns and is scheduled to be completed in September 1995. This approach (splitting the risk assessment) will allow the risk assessment for a specific operational campaign to be completed prior to the start of that operational campaign.

The second recommendation by the NRC actually consists of seven subelements each of which is addressed below: "Proceed with Tooele systematization, and during systemization, conduct needed testing and improvement activities, including the following:

"Develop and demonstrate an improved agent monitoring and identification system." The Army has initiated a number of programs designed to improve the agent monitoring and identification system. Among these are:

(1) The use of gas chromatography/mass spectroscopy (GC/MS) as a confirmation of agent alarms by the Automatic Continuous Air Monitoring System (ACAMS). This system will be installed at JACADS this summer for testing with furnace emissions. Following testing at JACADS, a GC/MS system will be installed at Tooele.

(2) Increase the number of samples collected at each monitoring point. These samples will be used to identify the chemical compounds that interfere (cause false alarms) with the ACAMS operation.

(3) Implement a study on the potential use of an atomic emission detector to increase the ability to differentiate between agent and chemical compounds that would interfere with the GC/MS operation. This could serve to further increase the ability of the identification system to accurately identify air emission sources.

The Army is working with the NRC oversight committee and the Center for Disease Control and Prevention, specifically, the Center for Environmental Health, Special Projects Group in Atlanta, Georgia, to continually upgrade the facility monitoring system.

"Complete the brine reduction area (to include its pollution abatement system) performance tests, or develop a satisfactory brine disposal alternative." The JACADS brine reduction area performance test was completed on October 24, 1993. The compliance test report has been submitted to the Environmental Protection Agency, Region IX for review and approval. The brine reduction area at Tooele has been modified to incorporate the lessons learned from the JACADS tests.

"Demonstrate the dunnage furnace performance with various levels of chlorinated waste; if needed, either modify the pollution abatement system design (e.g. add acid gas scrubbing) or limit feed materials to those that can be handled by the existing design; alternatively, satisfactory land disposal options must be identified." The Program Manager elected not to incinerate chlorinated material in the dunnage incinerator due to concerns over the generation of dioxins and furans. The primary source of chlorinated waste is the plastic suits worn by workers entering contaminated areas of the facility (Demilitarization Protective Ensemble (DPE) suits). A program has been initiated to treat used DPE suits so they can be stored in a hazardous waste landfill. The treatment process will incorporate both agent decontamination and volume reductions. The system will be installed at Tooele following a performance test to be conducted at the Chemical Agent Munition Disposal System (CAMDS).

"Review the probable levels of NO_x production from VX destruction and the allowable emission levels at the other continental U.S. sites requiring VX destruction; if appropriate, develop needed NO_x abatement systems." A preliminary review does not indicate there is a problem with the NO_x generation. However, data on NO_x generation is being collected at both JACADS, with and without agent feed, and at TOCDF, without agent feed. The data will be used to update the NO_x generation estimates for all CSDP sites.

"Develop and demonstrate the proposed hot-slag removal system for the liquid incinerator system." A slag removal system is currently being designed and fabricated for Tooele. It is not possible to test this system at JACADS due to the differences between the JACADS and TOCDF. The space below the liquid incinerator is insufficient at JACADS to install a slag removal system. The demonstration of the Tooele slag removal system will be difficult without processing agent. The slag characteristics are strongly linked to the agent processed. Testing at Tooele during systemization will encompass system installation and functionality of the equipment.

"Eliminate furnace feed errors by improved monitoring and control of the deactivation furnace and metal parts furnace feed system and by improved methods for tracking the various types of munitions." A study has already been initiated to identify process control and/or instrumentation system changes required to ensure the proper segregation of feed to the furnaces. This study will be accomplished in two phases. The first phase will list the processing steps that must be completed for proper feed to the furnaces and identify instances during JACADS OVT where these steps were not completed. Recommendations will be developed and designed to ensure these steps are always completed during processing at Tooele. Implementation of the appropriate recommendations from this study is scheduled for the late summer to early fall of 1994. The second phase will include the development of process control and/or instrumentation changes required to eliminate the furnace feed errors identified by the Tooele risk assessment. Recommendations from this phase of the study will be incorporated into the Tooele facility prior to processing agent munitions with the unacceptable risk of an improper furnace feed.

"Address all problems associated with residual gelled mustard, in particular, the use of suited personnel to perform functions that were intended to be automated." The increase of suited personnel to perform functions that were intended to be automated during OVT IV was due to mechanical equipment malfunction and not due to residual gelled mustard. There were two systems, the agent collection system and the pick and place robot (moves projectiles from a tray to a machine and back), which caused the greatest number of operational difficulties. A program of equipment modifications on these systems has been implemented which were successfully demonstrated at JACADS during the post OVT operations in the summer of 1993. These equipment improvements will be installed at Tooele prior to agent operations with projectiles.

Additionally, the research and development program proposed in the *"Alternative Demilitarization Technology Report for Congress"* includes the development of methods for handling gels in each alternative technology and treatment of ton containers.

ANNISTON CHEMICAL WEAPON DISPOSAL FACILITY

Question. The second demil facility will be located at the Anniston Army Depot, Alabama. In anticipation of a March 1994 contract award date, Congress appropriated $108,900,000 for this facility in the military construction appropriation last year. However, before a contract can be awarded, necessary environmental permits must be obtained by the State. When do you expect this to happen?

Answer. On April 28, 1994, Brigadier General Busbee, Commander, U.S. Army Chemical Materiel Destruction Agency, met in Montgomery, Alabama with Mr. Jim Warr, Acting Director, Alabama Department of Environmental Management (ADEM) to resolve issues related to the Resource Conservation and Recovery Act (RCRA) and air permit application for the Anniston Chemical Disposal Facility (ANCDF). The Army proposed that ADEM de-link the JACADS/TOCDF/Alternative Technology Report technical issues from the Anniston Chemical Disposal Facility (ANCDF) permit preparation and public review process by treating these issues as compliance items, which must be addressed to ADEM/EPA Region IV satisfaction, prior to granting an operating permit. Mr. Warr indicated a willingness to review this proposal and inform the Army of ADEM's position in the near future. The Program Manager for Chemical Demilitarization (PMCD) is assessing the impact of continuing permit delays on the ANCDF solicitation.

Question. If the State is waiting for completion of Congressional review of the Alternative Technologies report and the Army's response, how will the State know when that review is completed?

Answer. The State will be informed of any Congressional changes or modifications to the Army's recommendations on alternative technology, resulting from Congressional review of the Army's report. Additionally, state regulatory authorities have indicated that the Alabama Congressional delegation offices are keeping them apprised of developments in the Army's Alternative Technology Report study.

Question. What changes to this facility are being made as a result of the Alternative Technologies report by the NRC?

Answer. Other than the Army's recommendation to add carbon filters to the end of the incineration process, there are no other changes being made as a result of the NRC's Alternative Technologies report. Improvements, however, are being made based on JACADS operational experience.

Question. What is the status of implementing these changes in the facility design, the environmental permit applications, and the contract solicitation?

Answer. This question is answered above.

Question. How long has the contract solicitation been "on the street"? How much longer can it linger before having to be pulled back and reissued?

Answer. The solicitation for ANCDF was issued April 1992. Proposals were received in September 1992, and discussions were held with the offerers in February 1993. The solicitation was put on hold in May 1993, acknowledging the delay required by Congress to evaluate alternative technologies, and revised proposals were requested in February 1994. Revised proposals were received April 28, 1994. If the solicitation cannot be awarded at the scheduled time (September 1994), the solicitation will be kept open until such time that there is a change in government requirements so substantial that it warrants complete revision of the solicitation. Extending the date of award while awaiting approval of permits by itself, while not desirable, is not considered that substantial.

Question. What are the views of the local community, as expressed informally to you, but also in the press and through the Citizens Advisory Commission or other groups?

Answer. The Alabama Citizens' Advisory Commission stated the following position to the Army, Anniston City Council and Calhoun County Commission: Support for the need to safely and promptly destroy the chemical weapons presently stored at Anniston Army Depot with maximum safety and protection for the workers, the community and environment. Strong opposition to transporting any chemical weapons, toxic or hazardous waste for storage or destruction to Anniston Army Depot or using destruction facilities for any other use than destroying chemical weapon stockpile presently stored at Anniston Army Depot. They are demanding that the destruction facility be dismantled immediately after the chemical weapon stocks presently stored at Anniston Army Depot are destroyed and are requesting elected officials to pass state and local laws and regulations to ensure dismantling occurs. In addition, the CAC agrees with NRC that an updated risk analysis should be conducted with possible reconfiguration of the high risk munitions.

Anniston has a diversity among its local groups. The most active is Families Concerned About Nerve Gas Incineration; Supporting Proven Reliable Incineration of Nerve Gas (SPRING); and a less active, Relocate Our Area Residents (ROAR).

The most involved and influential media is the local newspaper, the Anniston Star. Coverage has been steady and comprehensive including news stories, editorial and "Ask the Expert" educational features. Recently, coverage has increased since an editor visited the Tooele facility and emerged with information that strengthen the NRC and Army recommendations. These articles energized opposing views and the debate is playing out in the newspaper daily. Regional television and newspapers have primarily reported on program changes and major news announcements.

Question. Does the Army intend to perform a risk analysis for this facility, as recommended by the NRC? If so, who is conducting it, how much will it cost, what is the source of funding, and when will it be complete?

Answer. The Army has already begun the risk analysis as recommended by the NRC. The analysis is being performed by experienced analysts, engineers, and human factors experts from Science Applications International Corporation (SAIC) under contract to the U.S. Army Chemical Materiel Destruction Agency. The estimated cost of this analysis, which includes risk mitigation and preparation of a Risk Management Plan is $4 million. Funding for this effort is from the CAMD,D appropriation in the FY 1994 Program Integration Support Line. The analysis for M55 rockets, which will be the first munition campaign at the Tooele Chemical Agent Disposal Facility will be completed prior to October 1994. The completion date for analysis of the other munition campaigns is September 1995.

Question. What are the current milestones for this facility?

Answer. The FY 1995 budget was formulated on the following milestones:

Receive RCRA and Clean Air Permits—August 1994.
Award contract—August 1994.
Complete construction—July 1997.
Complete systemization/begin operations—January 1999.
Complete operations—September 2002.
Complete closure—September 2003.

However, the schedule is under review and will likely change due to delay in approval of the RCRA permit by the State of Alabama.

Question. Last year, the life cycle cost estimate for this facility was $872 million. What is the current estimate and why has it changed?

Answer. The current LCCE for ANCDF is $923 million. The increase is primarily due to higher operating costs and results from reduced processing rates and longer downtime periods based on lessons learned during operational verification testing of JACADS as well as inflation increases.

Question. The O&M budget for this facility increases from $6.8 million in fiscal year 1994 to $20.5 million in fiscal year 1995. Justify this increase.

Answer. The FY 1995 budget requirement is $20.2 million. The FY 1995 budget request includes requirements for a full year of systems contract management and administration and reconfiguration operations. The FY 1994 budget includes only a small amount of funds for the systems contract and no funds for reconfiguration.

Question. What contract award date was assumed in calculating your O&M budget and how much will your budget requirements go down for each month of delay in awarding the contract?

Answer. The ANCDF contract award date was assumed to be between mid-August and mid-September 1994. FY 1995 operations and maintenance (O&M) requirements will only go down on a month to month basis if the systems contract award slips to the end of October 1994. At that time it is reasonable that the O&M budget requirements will go down by approximately $500 thousand for each month of delay in awarding the contract.

JOHNSTON ATOLL CHEMICAL AGENT DISPOSAL SYSTEM (JACADS)

Question. The only operating chemical weapon disposal facility in the world is the Johnston Atoll Chemical Agent Disposal System (JACADS). Before beginning full scale operations, the Army conducted Operational Verification Testing (OVT) to test and demonstrate the disposal procedures for three types of weapons and three different agents. OVT started a year late in July 1990 and was supposed to be completed by November 1991. A series of technical problems and delays caused the completion of OVT to slip to March 1993.

Last year, you were expecting all agent disposal operations at JACADS to be completed by February 1996. Why has this date now been extended to January 1999?

Answer. The JACADS stockpile operations schedule has been extended 31 months since the last report, from a February 1996 end date to a September 1998 end date. The start of the Full Scale Operations Phase was extended 10 months due to delays in completing OVT, a lower than expected processing rate for the remaining M60 projectiles due to draining problems and RCRA Permit technicalities on the theoretical residue remaining per projectile versus the actual attained, and the replacement of the Deactivation Furnace System Kiln.

Based upon an analysis of OVT throughput and availability rates, scheduled shutdown durations including LIC secondary rebuilds, (agent and munition changeovers), learning curve length and systemization requirements, the JACADS Stockpile Operations Phase estimate has been extended from 36 to 57 months. Six months were added for the miscellaneous munitions campaign (for World War II stocks brought from the Solomon Islands, drums from Okinawa and rejects (44 to date) from the first 105mm projectile campaign in which over 45,000 projectiles were safety destroyed.

Question. The original total life cycle cost estimate for JACADS was $298 million; by last year it has increased to $737 million. What is your current estimate and why has it changed?

Answer. The current estimate to construct, equip, prove out, operate and close the Johnston Atoll Chemical Agent Disposal System (JACADS) is $1,244 million—an increase of $507 million or 69 percent over last year's estimate of $737 million. As a result of the evaluation of the Operational Verification Test (OVT) performed at JACADS, the Army has incorporated lessons learned, to include reduced throughput rates and longer periods for downtime, into the current JACADS schedule. As such, the increase in the JACADS costs is attributable to: a schedule extension of 38 months ($+490 million) of which $425 million is attributable to the actual schedule extension and the remaining $65 million are a result of the inclusion of increased island support costs associated with the U.S. Army Chemical Activity Pacific (USACAP) storage and surveillance activities; additional personnel for FY 1994–1995 (+$10 million) and the updating of prior year costs (+$7 million).

Question. OVT demonstrated operation of three of the four furnace systems. What has been the problem with the dunnage incinerator and what are your plans to correct it?

Answer. The dunnage incinerator (DUN), which was a commercial design adapted for JACADS, has had a series of start up problems which have been worked through. Initial testing revealed that the depleted oxygen design concept was not the optimum operating configuration, and the furnace was converted to an excess air mode of operation. On June 26, 1991, a pressure excursion occurred in the DUN during a furnace shutdown, resulting in the realization that design improvements were required to prevent products of incomplete combustion from reaching an explosive concentration. The DUN was retrofit to put the induced draft fan and the afterburner on emergency power, seal the elevator shaft and rework the pressure balance to insure air flow into the DUN. Additionally, a water sparge system was added to the combustion chamber to provide additional safety assurances. Subsequent testing also required the following modifications: the Pollution Abatement System Quench was converted from a dry to a wet unit based upon operational experience; the bag house bypass valve bearings were air purged to prevent sticking from particulate infiltration; fuel oil piping was changed from carbon steel to stainless steel for corrosion prevention; the charge elevator and RAM received accelerated maintenance to eliminate sticking problems.

After all these modifications were completed, the DUN was put into a 150 box production cycle, its first sustained period of operation. This run revealed that the induced draft fan motor was undersized. The induced draft fan has just been upgraded from 75 to 100 horsepower, and we are currently preparing to relight and resume DUN testing. The production runs, which should begin the week of May 16, 1994, will optimize system operating parameters and evaluate ash handling. When operational continuity has been achieved and operators fully trained, a trial burn will be conducted this summer under EPA guidance and independent review.

The DUN systemization and testing has been slowed for three interrelated reasons. First, the initial five production campaigns—GB rockets, VX rockets, HD Ton Containers, HD 105mm projectiles and GB Ton Containers—did not generate dunnage which required incineration in the DUN (it was not contaminated). (Rocket pallets were used during the initial systemization of the DUN for convenience. The 150 box burn used the original HD 105mm projectile boxes that resulted from the reconfiguration of the projectiles to pallet loads compatible with JACADS demil operations.) Second, DUN modifications have been executed through the normal EPA modification system, rather than utilizing expedited modification processing required by operational demands for other systems. Third, because of lack of a day-to-day need for the DUN, maintenance and operations resources have been directed towards higher priority issues associated with rocket ton container and projectile processing.

The current schedule of activities calls for the DUN to be integrated into the JACADS production process by the end of FY 1994. Current production projections indicate the DUN can destroy about one third of its 1,000 pounds per hour design input. This processing rate is enough to destroy all wood waste material generated from JACADS operations.

Question. How did the Army "work around" not having a dunnage incinerator capability during OVT?

Answer. During OVT no agent contaminated dunnage was encountered with the weapons processed. During the rocket OVT campaign, the non contaminated rocket pallet dunnage was used to systemize the DUN furnace. Additionally, the non contaminated projectile pallets were reused effectively to handle the spent projectile bodies as they exited the Metal Parts Furnace. It was found that reusing the projectile pallets was very efficient and provided a very convenient method to handle the projectile bodies from a material handling and storage requirement. It is much easier to handle and sell pelletized spent munitions to steel companies than random rounds, especially at such a remote location as Johnston Island.

Question. Tell us about the release of agent from the liquid incinerator stack on March 23 of this year.

Answer. The Liquid Incinerator (LIC) was being cooled down on March 22, 1994 to prepare for the removal of slag from the secondary chamber of the LIC furnace system. No agent or munitions processing was being performed anywhere in the plant. After completion of agent processing earlier that day and as part of the routine shutdown procedure, the agent feed line to the LIC was purged with air, then purged with fuel oil and then again with air to clean the agent line. During the purge of the agent line with fuel oil, the operators did not record the required process information per the approved standard operating procedure. At the time, it was assumed that the agent line had been purged adequately with air, fuel oil and air again and for the proper length of time. After the furnace cooled to the required temperature (1,000 degrees Fahrenheit), an entry by two personnel in protective gear was made to the LIC Room to remove the agent line from the LIC (per procedure). The LIC burner system was not running at this time in the shutdown sequence. When the agent line was disconnected from the LIC burner, agent was released to the LIC room and exhausted through a ventilation duct routed upstream of the Pollution Abatement System (PAS) (which was at a temperature too low to destroy any agent vapor present) and on to the common stack. The common stack monitor alarmed and the LIC air handling system was quickly switched to the charcoal filters to prevent further agent release to the atmosphere. The agent released exceeded the current U.S. Army and Environmental Protection Agency standards. No agent was detected at the perimeter monitors outside the plant. The appropriate emergency response procedures, actions and notifications were followed and performed by the JACADS contractor during the agent release. There were no worker or personnel exposures due to the release and the down wind modeling per the Department of Health and Human Services showed that hazardous levels of agent would not have been detected at ground level. Modifications to the agent line purge system to include control room verification instrumentation and procedures have been installed. Additionally, the room ventilation has been routed to the charcoal filters during disconnection of the agent line to preclude a reoccurrence of agent going to the common stack during the shutdown sequence of the LIC.

Question. For the record, provide the schedule for operations at JACADS for the remainder of the program, showing time frames, and weapons types and quantities.

Answer. The following table lists the current schedule of operations including munition changeover and agent changeover occurrences. Munition changeover periods (2 to 4 weeks) are included in the campaign durations listed. Agent changeovers are listed separately. Also, the schedule includes time for LIC slag removal, mist eliminator candle changeouts on the furnaces and removal and changeout of the deactivation furnace system (DFS) feed chute into the kiln and cleanouts of the Heated Discharge Conveyor. The schedule has been recently extended by 3 months due to the requirement to replace the LIC secondary refractory during the GB M55 Rocket Campaign:

Campaign—Duration:
GB M55 rockets—January–November 1994 [deleted].
GB MC1 bombs—December 1994–May 1995 [deleted].
GB MK94 bombs—June–September 1995 [deleted].
GB M360 projectiles—October–December 1995 [deleted].
GB M121XX projectiles—January–July 1996 [deleted].
GB M426 projectiles—August–September 1996 [deleted].
GB/HD agent changeover—October–November 1996 [deleted].
H/HD M2X projectiles—December 1996–February 1997 [deleted].
H/HD M110 projectiles—March–May 1997 [deleted].
HD/VX agent changeover—June–July 1997 [deleted].
VX ton containers—August–September 1997 [deleted].
VX 121XX projectiles—October 1997–January 1998 [deleted].
VX M426 projectiles—February–July 1998 [deleted].
VX M23 land mines—August–September 1998 [deleted].

Question. The Army has conducted two studies on lessons learned at JACADS: how the equipment and process can be expected to work compared to earlier projections and what will be the actual throughput rates compared to earlier projections They were expected to be completed in February. What were the conclusions?

Answer. As a result of the lessons learned studies at JACADS, additional downtime periods and revised throughput rates have been incorporated into the updated JACADS operations schedules. The revised throughput rates increased the operations schedule by 21 weeks. The following table shows the revised throughput rates associated with each scheduled campaign at JACADS:

Campaign:	*Throughout rates (munitions/hour)*
GB M55 Rockets	22.6
GB MC1 Bombs	3.5
GB MK94 Bomb	4.6
GB M360 Projectiles	116.9
GB M121XX Projectiles	82.9
GB M426 Projectiles	32.5
H/HD M2X Cartridges	114.0
H/HD M110 Projectiles	70.6
VX Ton Containers (TC)	0.47
VX M121XX Projectiles	72.1
VX M426 Projectiles	25.6
VX M23 Land Mines	36.5

The following downtime periods, which total 95 weeks, have been added to the JACADS operations schedule. These downtime periods have been found to affect the operability and availability of JACADS. Downtime has been defined as the period of time during scheduled plant operations that result in limited to no agent processing.

1. Leaker/Reject Operations—8 weeks, which pertains to the operations periods for the processing of known leaking munitions and those munitions rejected at the Projectiles/Mortar Demilitarization

Machine or the Multipurpose Demilitarization Machine. Of this, 2 weeks is designated for processing known leaking rockets, and 2 weeks is designated for processing reject projectiles for each agent type, e.g. GB, VX, and H/HD.

2. Slag Removal—37 weeks. This includes slag removal, candle changeout, and the kicker-chute replacement. Slag currently builds up on the refractory walls of the liquid incinerator (LIC) as it is operated; progressively reducing its efficiency. To maintain incinerator performance the slag has to be chipped from the walls of the LIC. Slag removal is scheduled for 7–10 days after 120,000 pounds of agent have been processed (equivalent to 10,000 rockets). Candle changeout is scheduled for 2 days after every 5,000 rockets. The kicker-chute replacement is scheduled for 1 week during the rocket campaigns only. [It should be noted that a continuous hot-slag removal system has been incorporated in the CONUS plant design to eliminate this major source of downtime.]

3. Systemization—36 weeks. A 4 week period has been included for systemization after each munitions change, except GB M55 rockets, GB MC1 bombs and GB MK94 bombs. Presently, the CONUS sites have a systemization phase prior to the start of operations. Systemization is the testing of all process components and systems, and the demonstration that the plant, procedures and personnel are ready for operation.

4. Contingency Period—14 weeks. A 4 week period has been designated for each year of operation for meteorological restrictions, and major maintenance events that cannot be scheduled during an agent and/or munitions changeover without causing any processing inefficiencies. 1 week had been added for a holiday period at the end of each calendar year of operations, in the previous JACADS operations schedule. Therefore, only 14 weeks are added such that a total of 16 weeks is being designated in the current schedule for contingency periods.

Question. What do your current schedule and cost estimates include with respect to destruction of non-stockpile material and the tearing down of the facility? To the extent that these costs and schedules are not included, what are they?

Answer. The current JACADS Stockpile Operational Schedule continues through September 1998 and is currently projected to cost $1,093,311,000. An anticipated Miscellaneous Munitions Campaign of 6 months duration will commence immediately after the Stockpile Operations Phase. Munitions to be processed include: Solomon Islands stocks, 14 concrete filled and 1 sand filled drum with miscellaneous chemical items, ID Sets and permanent rejects from the stockpile campaign. This estimate includes systemization, preoperational surveys, and two agent changeovers. Consequently, the last chemical munitions stored on Johnston Island are scheduled to be destroyed in March 1999. The projected cost for this 6 month effort will be approximately $71,866,500.

The Program Manager has defined Closure as cleaning the entire plant to a non-ventilated 3X standard and not tearing down the facility. It is currently anticipated that this will require processing most of the plant processing equipment through the Metal Parts Furnace. The preliminary estimate for this effort is approximately

1 year at a cost of $73.7 million, which is included in the current life-cycle-cost estimate.

CRYOFRACTURE

Question. Last month, the Army informed the Committee that it had decided to proceed with a baseline facility at Pueblo, Colorado rather than construct a cryofracture facility. Summarize the basis for your decision.

Answer. The decision for the selection of the baseline process as the Army's preferred alternative for a facility at Pueblo, Colorado, was based primarily on:

(1) Cryofracture is a more immature process relative to baseline. The baseline plant at Pueblo would be the fourth plant to be built using the JACADS-based process. Cryofracture has not processed a single chemical munition in a fully integrated process line.

(2) There is a potential program cost risk (up to $241 million) should the cryofracture technology be pursued. Because the cryofracture process calculations are based on design through-put rates and process modelling, the risks to the life-cycle-costs were assessed to be much higher.

(3) The National Research Council (NRC) has expressed reservations relative to the safe incineration of mixed waste streams generated by the cryofracture process. The NRC has indicated that the incineration of non-homogeneous feed streams as the one employed in the cryofracture process could lead to furnace over-pressures thus creating agent "puffs" in the system and increasing the risk of agent excursions.

Question. By whom outside of the Army in the Department of Defense was this decision reviewed?

Answer. The National Research Council (NRC) of the National Academy of Sciences (NAS) reviewed the Army's decision to proceed with a baseline facility at Pueblo, Colorado. The NRC expressed reservations on the safe incineration of mixed waste streams generated by the cryofracture process. Additionally, the Assistant to the Secretary of Defense (Atomic Energy) and the DoD Explosive Safety Board reviewed the decision and expressed similar concerns.

Question. Did the Army cryofracture testing program identify any show stoppers or technical problems with cryofracture? Were any of the tests unsuccessful?

Answer. The cryofracture test program was successfully completed in October 1993. The test program narrowed many of the data gaps that were identified in earlier assessments of the cryofracture process. Although some anomalies were identified as the tests progressed, they were satisfactorily resolved through equipment redesign and/or procedural changes and retesting. Specifically, the test program has:

(1) Provided information that has improved the process design, decreased performance uncertainties, and further enhanced the operability of individual process subsystems.

(2) The design throughput rates and process capabilities of front-end robotics subsystems were verified.

The major key deficiency of the cryofracture test program concerns the lack of operational data associated with an integrated process line in a toxic environment. Such integrated tests, involving the processing of actual cryofractured debris produced by the technology process, could not be conducted during the test campaign due to physical and environmental constraints on existing test fixtures. A fully articulated process line and appropriate prototypic kiln and pollution abatement systems are necessary. Although some uncertainty is introduced by this data gap in assessing future plant performance, there are no tests results (at the subsystem level) which indicate the inoperability of the cryofracture process.

Question. Is it the Army's position that cryofracture would be an acceptable technology for accessing chemical agent in munitions without explosive bursters?

Answer. The cryofracture process is insensitive to the irregularities of stockpile munitions. In the case of projectiles, the one-step accessing of agent and explosives within the munition is particularly promising, as is the ability of the technology to handle agent in many forms (foam, pressurized, solid and liquid). Unburstered munitions further reduce process and facility complexity.

Question. With respect to the destruction of Russian chemical artillery projectiles, is it safe to say that cryofracture is an acceptable, if not preferred, approach since these munitions are sealed and cannot be disassembled?

Answer. The use of cryofracture for the destruction of Russian Chemical artillery projectiles and rocket warheads is a technically viable concept. Because the Russian artillery projectiles and rocket warheads are not stored with energetic components, many of the potential concerns about the use of the cryofracture process for the U.S. chemical stockpile are not present. During discussions with DOD representatives, representatives from the Russian Federation President's Committee have agreed to consider the cryofracture process during the evaluation and selection of technologies for use in their CW destruction process.

Question. What other uses or applications of the cryofracture technology are being contemplated?

Answer. Representatives from the President's Committee have been working with General Atomics on a destruction process which combines the cryofracture press system, with a super critical water oxidation (SCWO) process for agent destruction.

In the CONUS non-stockpile chemical materiel disposal program, cryofracture technology will be considered for the destruction of the chemical munitions at the large burial sites. In addition, the Army Research, Development and Engineering Center at Picatinny Arsenal is considering the application of this technology for disposal of pyrotechnic grenades.

Question. The Department has made a commitment to complete the facility and process designs for cryofracture.

a. When will this be done?

b. What will it cost?

c. What is the source of funds?

Answer. The cryofracture plant designs for a Pueblo-based complex are (a) projected to be completed in approximately 15 months; (b) estimated to cost $15.3 million ($6.8 million and $8.5 million Military Construction, Army (MCA) Process and Design (P&D)

funding for the remaining design effort; and (c) funded with two types of resources as shown above; research and development (R&D) for process design and MCA(P&D) for facility design. $4.3 million of the funds required have been appropriated (FY 1994) but not authorized; the balance is in the current funded cryofracture program. The facility design funds are in the FY 1994 and FY 1995 MCA(P&D) program.

CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM

Question. Last year, you testified that the O&M costs for the Chemical Stockpile Emergency Preparedness Program (CSEPP) would decline in the next two years and then level off. Why is there a 22% increase, from $45.1 million to $55.2 million in fiscal year 1995?

Answer. The fiscal year (FY) 1995 CSEPP O&M budget request for $55.2 million reflects an increase in CSEPP Operations and Maintenance (O&M) funding requirements associated primarily with the CSEPP automation program. After the Army assumed lead for the CSEPP automation program last year, we suspected that the programmed O&M funding requirements for CSEPP automation program had been greatly underestimated. This suspicion was confirmed after the FY 1994 CSEPP budget had been submitted and after I had testified on that budget. When the actual automation program funding requirements were worked out by the Army program office, the CSEPP faced a $23.8 million dollar O&M shortfall for the FY 1993 through FY 1995 time period. To cover this shortfall, $13.8 million of additional FY 1993 O&M funding was provided to the CSEPP by the Chemical Stockpile Disposal Program. This increased FY 1993 O&M expenditures to $52.2 million and helped reduce FY 1994 funding requirements by about $7.9 million. To cover the potential FY 1995 CSEPP O&M shortfall, $10 million was shifted from the Army's FY 1995 CSEPP Procurement budget request last September and added to the $45.2 million O&M request that had been originally programmed. CSEPP automation funding requirements are projected to peak in FY 1995 and decline considerable in the remaining years of the program.

Question. Congress has been critical of the management of this program in the past. Last year's conference report stated the expectation that steps would be taken to improve management and that Dr. Smith would conduct a thorough review and make a decision concerning the management structure. What specific steps have been taken to address these expectations?

Answer. The Army has done away with its committee approach to managing the CSEPP and is establishing a single accountable focal point within the Department of the Army to implement the program. A program office under the U.S. Army Chemical and Biological Defense Command at Aberdeen Proving Ground will be established by October 1, 1994. This core office will be the focal point for accountability in program planning and implementation. All actions and issues involving both the on and off post elements of the program will flow through this office to ensure uniformity of effort and proper definition of accountability. Within this office will be a Site Support Team for each Chemical Weapons Stockpile location that will be responsible for knowing the concerns of the local civilian and installation officials and for surfacing any problems that may require federal assistance to Army or Federal Emergency Management Agency (FEMA) higher headquarters.

Question. According to a recent GAO report, the total cost of the CSEPP has gone from a 1988 estimate of $114 million to a current estimate of $696 million. Is this report accurate? If so, please explain.

Answer. The report is accurate, but the original estimate of $114 million was based on a program that was only scheduled to last six years and envisioned to be much more simple than it has become. Since 1988, the requirements for sustainment of emergency preparedness has been increased by nine years because of the delays in the Chemical Stockpile Disposal Program. Once we have reached the maintenance level in this program, the costs for emergency preparedness in the CSEPP communities are estimated to be between $50 and $70 million per year. Furthermore, at the time that the original estimate was made, the Army did not understand the extent of the lack of emergency management capabilities in the CSEPP communities. Because of this lack of capability, the Army and FEMA had to develop detailed planning guidance for the CSEPP communities to use in planning their emergency response requirements. During the development of that guidance, requirements emerged that were not originally anticipated, such as the necessity of having automated equipment in helping local officials determine in advance the protective actions appropriate for a range of emergencies. While program costs have increased considerably from what they were originally projected to be, they have been controlled. Many funding requests for emergency response capabilities that the CSEPP communities were requesting from the CSEPP were denied because they were not within the parameters of the planning guidance and, therefore, not considered the responsibility of the CSEPP to fund. An accurate total cost estimate of the CSEPP will not be possible until the last planning standards are completed and translated by the CSEPP communities into funding requirements. After those requirements are funded, the program will be in a maintenance mode until the last chemical weapons are destroyed which is currently scheduled to be by the year 2003.

Question. The GAO found that there was insufficient program guidance, delays in acquisition and installation of equipment, and weakness in program management. Do you agree with the GAO findings?

Answer. There have been delays at the federal level in providing technical assistance which, in turn, has caused delays in the acquisition and installation of equipment. The technical assistance consists of planning standards which the CSEPP communities can use to determine their emergency response requirements. The planning standard development process has consisted of many steps, including (1) completion of technical studies that range from determining the placement of warning systems to determining the extent of possible chemical agent contamination and identifying appropriate personal protective equipment, (2) review and analysis of the studies results by numerous Army and other cognizant federal agencies, (3) identification of additional issues or data requirements, (4) acquisition of additional data and/or resolution of issues identified, and (5) completion of the applicable planning standards. This multi-step process has proven to be more complex, time-consuming, and difficult than originally anticipated. All of the twelve planning standards that directly affect emergency response will be completed by mid-summer and, by the end of this calendar year, the Army anticipates that virtually all of the warning, and communications systems will be either in place or in the procurement process.

Question. What specific steps are being taken to implement the GAO recommendations that the Secretary of the Army determine the realism of existing milestones for each CSEPP initiative, establish new baseline milestones for each initiative, and change the CSEPP committee structure to establish a single point of accountability?

Answer. The Army has done away with its committee approach to managing the CESPP and is establishing a single accountable focal point within the Department of the Army to implement the program. A program office under the U.S. Army Chemical and Biological Defense Command at Aberdeen Proving Ground will be established by October 1, 1994. This core office will be the focal point for accountability in program planning and implementation. One of the first actions of the new program office will be to assess the CSEPP milestones and, if necessary, establish new dates for those projects that are managed by the Army or FEMA. This office will also assist the States in establishing realistic milestones for projects that are the responsibility of the States, ensuring that the milestones for those projects that are dependent on federal technical guidance and funding are synchronized with the federal efforts and available funding. The establishment of this new program office should enable officials in the Secretary of the Army's Office and at FEMA Headquarters to better focus their efforts on expediting policy issues and doing more effective long range programming of CSEPP resources.

NON-STOCKPILE CHEMICAL MATERIEL PROGRAM

Question. Last November, the Army completed a study on the destruction of chemical weapons and materials (such as binary-chemical weapons, recently discovered material, weapon and agent production facilities, etc.) that are not included in the previously defined Chemical Stockpile Disposal Program. Summarize the results of this study, focusing in particular on cost and schedule.

Answer. The Survey and Analysis Report which was released last November provided a discussion of the scope of the Non-Stockpile Chemical Materiel (NSCM) program, described the five categories of materiel included in the program, discussed disposal alternatives in general terms and provided a programmatic schedule and cost estimate. Disposal options ranged from sale of non-agent contaminated hardware and equipment, to destruction of munitions and agent contaminated materials and structures. Although destruction technologies have not yet been selected, a variety of processes will be considered to include treatment with chemicals, biological processes, incineration, as well as emerging technology. Three categories of NSCM will be destroyed within 10 years; they are: Binary Chemical Weapons, Recovered Chemical Weapons, and Former Production Facilities. The Miscellaneous Chemical Weapons Materiel category can be destroyed within 5 years while remediation of the suspect burial sites is estimated to require as much as 40 years. These schedules are consistent with the requirements of the Chemical Weapons Convention (CWC) except for the burial sites which are not addressed by the Chemical Weapons Convention. Total cost of the program was estimated at $17.7 billion dollars. The cost to comply with the CWC which has no obligation on signatories to recover buried CW material, is estimated to be $1.1 billion.

Question. The non-stockpile activity in fiscal year 1994 includes the preparation of a Programmatic Environmental Impact Statement?

When will the statement be complete?

Answer. The statement will be completed in about 30 months after the contract award, which is projected for July 1994.

Question. What issues are being considered in this process?

Answer. Primary consideration will be given to assuring maximum protection of human health and the environment. Also, the requirements of the Chemical Weapons Convention must be considered which could impact on the "do nothing alternative" which require consideration by National Environmental Policy Act. Obviously socioeconomic impacts to the affected communities must also be totally addressed in the analysis.

Question. What alternatives are being considered?

Answer. All alternatives identified in the scoping process will be considered. Alternatives identified in the Survey and Analysis Report released in November 1993 will be included. Examples are incineration versus neutralization for the agents, sale versus destruction for non-contaminated equipment such as pumps, transfer equipment, etc. However, some alternatives may not be viable such as the "do-nothing" options since the Chemical Weapons Convention, if adopted, requires that all categories of non-stockpile chemical warfare materiel be destroyed except for the remediation of the burial sites. For example, the binary weapon manufacturing facilities, which may have other non-chemical weapons uses, must be totally destroyed.

Question. How much will this cost?

Answer. The contracted portion of the study is estimated at $3 million. Other supporting studies and analysis, some of which are yet to be defined, will drive the cost higher than this figure.

Question. According to your statement, the Army intends to contract for the recovery, transportation, storage, and disposal of non-stockpile chemical warfare materiel.

Why is this approach being taken?

Answer. As stated in the Program Manager for Non-Stockpile Chemical Materiel Survey and Analysis Report released by the Army in November 1993, the U.S. Army Corps of Engineers is responsible for the recovery phase of the burial remediation program and the U.S. Army Chemical Materiel Destruction Agency is responsible for the various other phases of the program. The Army has historically contracted for environmental remediation and disposal services, due to organizational manpower limitations. Manpower limitations dictate that contractors be utilized to provide the numbers and diversity of personnel and equipment needed to perform the multiple aspects of chemical warfare materiel destruction. In all cases, the Army will provide a small cadre of highly trained professionals who will oversee the activities of the contractors. The U.S. Army Technical Escort Unit, which has extensive experience in handling chemical weapons, will be an integral part of the team. This approach will provide maximum protection for the public health and safety.

Question. What are your milestones for issuing such a contract and what kind of contract will be used?

Answer. The contract will be awarded by June 1995. The contractual mechanism will be an indefinite delivery order contract solicited and awarded under full and open competition.

Question. How much will this contract cost on an annual basis?

Answer. Costs associated with government administration of the contract will total about $330 thousand per year. Actual contract amounts for projects will vary depending on the number of sites remediated and number of tasks awarded.

Question. What sort of contractor would be interested in such an effort?

Answer. The contracting teams expected to respond to this solicitation are a mixture of systems development contractors, specialized environmental remediation contractors and environmental consulting firms.

Question. What specific plans do you have for the non-stockpile program in fiscal year 1994 and 1995?

Answer. The program plans to:

(1) Prepare an implementation plan which lays out the specific detailed plans for the various program activities, explains how they will be integrated, and defines which Department of Defense activity or Federal Agency has lead responsibility (i.e., U.S. Army Corps of Engineers, U.S. Army Chemical Materiel Destruction Agency, Installation Commanders, Department of Health and Human Services, etc.). Life cycle cost estimates will also be developed and included in the implementation plan.

(2) Design, construct, test, and field the Rapid Response System, a mobile system for the disposal of Chemical Agent Identification Sets which contain no explosive components. Chemical Agent Identification Sets are a World War II training item which contained actual chemical agents. Chemical Agent Identification Sets are frequently recovered by accident.

(3) Design, construct and begin testing of the Munitions Management Device Version 1 (MMD–1), a mobile system for the disposal of small quantities of non-explosively configured chemical munitions.

(4) Preparation, issuance and award of the Small Burials Contract (SBC). The SBC will be the principal contractor to dispose of small quantities of chemical munitions recovered from burial sites and for previously recovered chemical munitions.

(5) Support the excavation of sites such as Ogden Defense Depot (Ogden, Utah), the former Raritan Arsenal (Edison, New Jersey), and the former Fort Segarra (Water Island, U.S. Virgin Islands).

(6) Arrange for and execute the disposal of as much category 3 materiel (unfilled chemical weapons as defined by the treaty) as possible prior to entry into force.

(7) Use the Portable Isotopic Neutron Spectroscopy equipment to characterize the unknown liquid filled chemical materiel at Dugway Proving Ground, Utah; Aberdeen Proving Ground, Maryland; Pine Bluff Arsenal, Arkansas; and Tooele Army Depot, Utah.

(8) Develop detailed plans for dismantling the VX Manufacturing Facility at Newport Army Ammunition Plant (NAAP) in Indiana and the Old Pilot Plant in the Edgewood Area of Aberdeen Proving Ground in Maryland.

Question. Why does the O&M budget for this program decrease from $18.7 million in fiscal year 1994 to $8.6 million in fiscal year 1995?

Answer. The Non-Stockpile Program Budget was prepared as a wedge for the early years (e.g., FY 1994 and FY 1995) until such time as a program estimate could be prepared. Significant contract efforts of a multi-year nature are planned for FY 1994 requiring "up front" funding for the new start Non-Stockpile Program. Examples include the Programmatic Environmental Impact Statement and environmental documentation for destruction of the NAAP former production facility (total $4.7 million).

Question. Your research program includes funding for Munitions Management Devices, Rapid Response Systems, Portable Isotopic Neutron Spectroscopy, and Raman Spectrophotometer.

Describe each of these and justify their requirement.

What is the total program cost/quantity for each and the funding profile?

Why should this work not be done by your contractor?

Answer. Each item questioned will be answered in order as follows:

1. Munitions Management Devices: The munitions management devices (MMD's) are a family of mobile equipment. The requirements for the MMD's are set by both the existing stocks of recovered chemical weapons, as well as the buried chemical weapons documented in the Non-Stockpile Survey and Analysis Report, November 1993. Chemical munitions can not be easily shipped between states, and can not be indefinitely stored; therefore, mobile systems to destroy these weapons are being developed. The munitions management device version 1 (MMD–1) will destroy non-explosively configured chemical munitions. The munitions management device version 2 (MMD–2) will destroy explosively configured chemical munitions. The munitions management device version 3 (MMD–3) will destroy bulk items (non-explosive) such as 1,000 pound World War II bombs and one ton containers. All three systems will address small quantities of items and are not designed to compete with the Chemical Stockpile Disposal Program, but are to supplement it.

a. The MMD–1 is currently under design by our contractor Science Applications International Corporation (SAIC). It will also be fabricated by SAIC. The testing of the MMD–1 will take place at Dugway Proving Ground (DPG) which will benefit the device by providing test data, will benefit the Army by eliminating non-explosively configured chemical weapons stored at DPG, and will benefit the state by eliminating unwanted chemical materiel. The test will be done inside the existing test chamber. The test will be operated by the small burials contractor (SBC) who will use this as an opportunity to "train up" on this equipment. Following testing of the MMD–1 at DPG, the SBC will operate this equipment in the field wherever required, as provided for under the small burials contract.

b. The MMD–2 and the MMD–3 are currently being contracted for under the SBC. Testing of these systems, like the MMD–1 test, is also envisioned for DPG or other Government facilities, but the basic effort is by contract. The "lessons-learned" from the MMD–1 trials will be used to improve the capabilities of the follow-on systems.

c. Current plans call for single systems of each type (MMD–1, MMD–2 and MMD–3) until testing is complete, followed by two additional MMD–1's and MMD–2's. Only one MMD–3 is currently envisioned.

d. Funding Profile:

(1) The funding for the design and fabrication of the MMD–1 is expected to utilize $4.8 million of RDT&E funding. Testing at DPG is currently being estimated for the outyear budgets.

(2) Funding for MMD–2 and MMD–3 systems will depend upon the bids received and the concepts proposed by the SBC. The SBC will be awarded in calendar year 1995.

2. Rapid Response Systems: The Rapid Response System (RRS) is, like the MMD family, a mobile system. The RRS is specifically targeted to destroy the World War II Chemical Agent Identification Sets (CAIS). From 1928 until 1969, approximately 110,000 CAIS were manufactured of 7 different varieties. Each contained actual chemical agent. They were distributed widely to Air Raid Wardens, National Guard units, etc. and were used for training extensively during World War II and Korea. Directions on the CAIS told the users to bury the items when found to be leaking. Chemical Agent Identification Sets are frequently recovered, from former burial areas, military buildings and civilian dwellings.

a. The RRS will provide a mobile glove box and small chemical reactor capability. The purpose of the system is to characterize the different types of vials and bottles in the CAIS as required by the existing hazardous waste laws, and then repackage or neutralize them for disposal. Some CAIS items can be simply repackaged and disposed of by existing hazardous waste contractors. Other CAIS items must be neutralized, by law (Public Law 91–121 and Public Law 91–441) prior to disposal as hazardous waste.

b. The RRS is being designed and constructed by the Ammunition Equipment Directorate shops at Tooele Army Depot (TEAD), due to their experience and knowledge of such systems. The RRS will be operated by the U.S. Army Technical Escort Unit (TEU) with contractor support. It is the TEU mission to respond to chemical materiel and CAIS recoveries, and they are trained to provide the support required for operating the RRS.

c. The RRS will be tested at TEAD where there are already 60 CAIS, which originally were found at Ogden, Utah; Fort Polk, Louisiana; Fort Huachuca, Arizona; and Warren Air Force Base, Wyoming. These items were transferred to TEAD in the 1980's. It will then be deployed to other places where CAIS have been found or transported to such locations as Pine Bluff Arsenal, Arkansas and

Fort Richardson, Alaska. Other sites are expected to be found, of course, as time goes by.

d. Funding Profile: The current budget for the design and fabrication of the RRS is $1.4 million in Procurement funding. Since the system is fabricated from commercially available components, it is not considered like the MMD's. Only one RRS is envisioned as being required.

3. RAMAN Spectrophotometer: The RAMAN Spectrophotometer is a part of the RRS. The RAMAN is a device which, when coupled to a laser probe, can send a beam of intense light into a bottle or vial of unknown liquid and can identify the contents based on a spectrographic analysis. The RAMAN is essential to meeting the provisions of the Resource Conservation and Recovery Act and other environmental laws which require an unknown waste to be characterized prior to treatment or shipment. Some chemicals in the CAIS, such as phosgene, are industrial chemicals, and when identified can be simply repackaged for shipment and disposal or recycling by industry. Other chemicals, such as mustard agent, require destruction. The RAMAN is required for the RRS.

Funding Profile: The cost of the RAMAN systems are part of the RRS as is their testing and fielding. The RAMAN systems will be used by the contractor who will be hired to assist the U.S. Army Technical Escort Unit as they operate the RRS.

4. Portable Isotopic Neutron Spectroscopy (PINS): The PINS, like the RAMAN, is a way of determining what is inside of a chemical item without opening it. However, where the RAMAN can be beamed through glass, the PINS sends a neutron beam into an opaque item such as an artillery shell or bomb.

a. Like the RAMAN, the PINS is essential in characterizing unknowns, as required by environmental law. Early use of the PINS, and its associated enhanced x-ray system, have allowed the Army to determine that many unknown liquid filled "suspect chemical" rounds are actually filled with FS smoke or other liquids which are not chemical agents. PINS and its allied systems have also identified hazards in storage areas such as range recovered rounds with functioned fuzes (two have been emergency destroyed) and rounds filled with white phosphorous, an incendiary mix.

b. PINS has also been vital in determining that liquid filled munitions at locations like Eglin Air Force Base, Florida; Fort Indiantown Gap, Pennsylvania; and Fort Meade, Maryland were not chemical weapons, but were smoke or simulant filled items. These items were then easily disposed of avoiding expensive storage and reporting costs.

c. Two PINS systems currently exist. One belongs to the Idaho National Engineering Laboratory, and is used by the Army under contract. The other has been purchased for the U.S. Army Technical Escort Unit, who frequently responds to suspect chemical weapons. The Small Burials Contractor will also be required to have a PINS capability.

d. Funding Profile: The operating budget for PINS is currently about $1.1 million per year. This varies due to unpredicted responses and travel.

INSPECTOR GENERAL REVIEW OF THE PROGRAM

Question. The committee has been told that the Department of Defense Inspector General is conducting a review of the Chemical Stockpile Disposal Program (CSDP) as part of a larger study of the effectiveness of the Defense Acquisition Board (DAB) process. A draft of the report has been given to all DoD elements. Are you familiar with this review? Please summarize its findings.

Answer. Yes, the Department is familiar with the review. The audit results state the CDSP could significantly benefit from disciplined program management provided in accordance with DoD acquisition policies. Additionally, the audit findings indicated the CDSP meets the prerequisite for a major defense acquisition program designation. Specifically, the findings stated program management should consider alternatives for meeting disposal requirements through formal cost and operational effectiveness analysis. A formal developmental and operational test program, approval of an acquisition program baseline, and improved contractor cost and schedule oversight were also recommended.

Question. We are told that the report considers the possibility of putting the CDSP into the major acquisition review process, including: a Milestone III production review; a Cost and Operational Effectiveness Analysis (COEA); and Development of a Test and Evaluation Master Plan and review of the plan by the Director of Operational Test and Evaluation. What are your views on such an approach? Would it not provide a discipline and Department review/oversight that has been lacking in the past?

Answer. The CDSP does meet the definition of a major defense acquisition program and should be periodically reviewed by an OSD executive level program management forum that consists of Defense Acquisition Board (DAB) members. The Department does not agree with the audit recommendation to implement a milestone III production review and to require an initial operational test and evaluation (IOT&E) report, a COEA and an approved acquisition program baseline before the milestone III review. The Department believes a periodic executive level review and designation of the CDSP as a Major Defense Acquisition Program (MDAP) will provide OSD level support to the Army for this complex and vital U.S. program.

[CLERK'S NOTE.—End of questions and submitted for the record:]

THURSDAY, MARCH 24, 1994.

PROCUREMENT, MARINE CORPS/RESEARCH AND DEVELOPMENT

WITNESS

MAJOR GENERAL JAMES A. BRABHAM, USMC, COMMANDER, MARINE CORPS SYSTEMS COMMAND

INTRODUCTION

Mr. MURTHA. The Committee will come to order. This morning, the Committee considers the $173.5 million Marine Corps research and development budget and the $554.6 million Marine Corps procurement budget. The principal witness is Major General James A. Brabham, Commander, Marine Corps Systems Command.

Last night, I met George Darden. He is a good-looking young son of Congressman Buddy Darden, and I called him a Georgia Dog. He says he wasn't a Georgia Dog, he was a Yellow Jacket and there was a distinction between a Yellow Jacket and a Georgia Dog. I want that on the record so he can see his name. I introduced him to a number of people as a Member of Congress. But Buddy says he is not ready to retire yet.

Mr. DARDEN. He is on the cross-country team for Georgia Tech and runs some five miles. He runs about a 15-minute five gig.

Mr. MURTHA. It is a pleasure to have somebody with so few backup witnesses and who can answer all the questions before the Committee. We are delighted to have you, and we know how important modernization is. You were just saying how hard the deployments have been in your area of responsibility. We are concerned about the accident at Pope Air Force Base yesterday. The extensive deployments, the lack or the reduction in the amount of flying hours, etcetera, may have nothing to do with this accident. But I worry that as we start to build down, quality and readiness may start to slip and then we start to have accidents.

We are in sympathy with the families of these people who were killed. It reminds us of how dangerous this business is. Certainly, logistics is a key to our success. I remember meeting with General Pagonis during operation Desert Storm and I was so impressed by the work that he did over there.

I asked him what he was going to do when he retired. He said that he was going to try to be the president of a small college. He did a little better than that. He could buy a few small colleges now.

General BRABHAM. Yes, sir.

Mr. MURTHA. So there is hope when you retire, General. We are glad to have you and look forward to your statement. We will put your entire statement in the record. If you will summarize, we will get right to the questions.

SUMMARY STATEMENT OF GENERAL BRABHAM

General BRABHAM. Mr. Chairman, Mr. Darden, it is my privilege to be here again this year representing the modernization requirements of our Marines.

Last year, when I was here, there were about 22,000 Marines forward deployed either on ships or on foreign soil. This year at the same time, there are 24,000 deployed either on foreign soil or on ships at this time.

There are another 24,000 that probably just got home and there is similar number getting ready to go. Going in harm's way certainly is a requirement for Marines and these young Marines readily accept that requirement.

My requirement is to try to take the funds that we have available and make sure that I provide them with the best that I possibly can in terms of the equipment they need to prevail should they get into harm's way.

Our fiscal year 1995 procurement request, similar to last year's, is very austere and focuses on only our most pressing modernization requirements. These are command, control, communications and intelligence, ammunition for training, and the level of procurement that I need to apply to modifications and product improvement just to keep some of our current capabilities ready, maintainable and capable.

Specifically, sir, we have to be able to exchange information on the modern battlefield with our sister services. We need good intelligence. Intelligence failures are very dramatic in their effect upon our Marines. We need secure, jam-proof communications. About 38 percent of the fiscal year 1995 budget will be dedicated to command, control, communications and intelligence. Training ammunition is another essential requirement and we have been in adequate shape over the past year due to some excesses that were generated by a change in our scenarios and some force drawdown.

However, this year we have had to increase our ammunition procurement from $78 million last year to $132 million this year on a ramping up to a real requirement of $210 million a year on a continuing basis just for training ammunition. We will have to start getting that level starting in about fiscal year 1996 because the small excesses we have at this time will be gone by then. So we are ramping back up in training ammunition. That is, 25 percent of this procurement budget is just for training ammunition.

The final area, modifications and product improvements takes another third of the available funding that we have. Components go out of production, dynamic components. We are beyond safe limits and threats change requiring a certain level every year just to keep our equipment maintainable and state of the art.

Examples of that this year are modifications to the 198 howitzers, our principal artillery weapon, modifications to light armored vehicles to make them more capable—for example, night targeting devices, and modifications to our old fleet of amphibians to keep them maintained and safety-oriented. So we have a real challenge and we are trying everything we can to stretch the dollars we have.

We have streamlined our inventories. I insist that my program managers use in every case possible another service's R&D and lead and another service's production or a joint program to keep our unit costs down.

Finally, we are looking very carefully at every excess piece of equipment that becomes available, as the other services draw down. For example, for this budget request, I would spend 80 percent of every dollar through a joint program or with another service to keep our costs down, 80 percent.

Additionally, in the last year, I have been able to procure over $138 million worth of excess equipment from the other services in Europe to offset our procurements. So we will continue to try everything we can to get the most out of our available procurement. That will not in the long haul address, I believe, our requirements.

The Bottom-Up Review and the Congress stabilized the force level of the Marine Corps at about 174,000 to make sure our operational tempo would not go ballistic as we met the requirements of the CINCS. 174,000 is about 13 percent force structure lower than our 1987 level.

During that same period, the amount of procurement dollars available was reduced by 60 percent. And that is essentially where we are today. So the challenge is extremely significant. We are at a good state of readiness now, but the proportion of our funding we are able to put into modernization has to be increased over future years.

We have to solve that problem. It is my distinct privilege to be here representing the Marines. I do this because I feel so deeply about them, and I really appreciate the help we have always gotten from this committee. I have submitted a prepared statement for the record, and I will be very happy to address any questions you may have at this time.

[The statement of General Brabham follows:]

WITNESS LIST
BEFORE THE
SUBCOMMITTEE ON DEFENSE
HOUSE APPROPRIATIONS COMMITTEE
ON
24 MARCH 1994
CONCERNING
MARINE CORPS ALLOCATION OF
RESEARCH, DEVELOPMENT, TEST, & EVALUATION, NAVY
AND
PROCUREMENT, MARINE CORPS

PRIMARY:

MAJOR GENERAL JAMES A. BRABHAM
COMMANDER
MARINE CORPS SYSTEMS COMMAND
(TOP SECRET)

UNITED STATES MARINE CORPS

HEADQUARTERS MARINE CORPS, DIVISION OF PUBLIC AFFAIRS
WASHINGTON, D.C. 20380, (703) 614-4309

MAJOR GENERAL JAMES A. BRABHAM JR., USMC

Major General James A. Brabham Jr., is currently serving as the Commander, Marine Corps Systems Command, Quantico, Va.

General Brabham was born August 31, 1939 in Upper Darby, Pennsylvania. He received his commission in June 1962 following graduation from Cornell University, where he earned a Bachelor of Civil Engineering degree.

In December 1962, after completing The Basic School at Quantico, Va., he was assigned to the 1st Marine Division, Camp Pendleton, Calif., where he served as a platoon leader in the 1st Bridge Company, FMF, Pacific. He commenced a two-year tour of duty at the Marine Barracks, Pearl Harbor in 1964, serving as guard officer and barracks personnel officer. He reported to the 1st Shore Party Battalion in Chu Lai, Vietnam in August 1966, where he served as Commanding Officer of Company A, and subsequently Commanding Officer of Headquarters and Service Company.

From August 1967 to July 1968, he attended the U.S. Army Engineer School, Fort Belvoir, Va. Upon graduation, he was assigned to Headquarters Marine Corps, Washington, D.C., for duty as the Engineer Equipment Programming Officer in the Office of the Assistant Chief of Staff (G-4).

Ordered back to Vietnam in April 1971, he served as the Engineer Advisor to the Vietnamese Marine Corps, remaining in that capacity through the North Vietnamese Easter offensive of April 1972.

Upon reassignment to Twentynine Palms, Calif., he assumed command of Provisional Maintenance Company, Force Troops, FMF Pacific. He commanded that unit until assignment to the U.S. Naval Academy in August 1975. During his tour at the Naval Academy, he served as a Company Officer, Instructor of Leadership, and Executive Assistant to the Commandant of Midshipmen.

Returning overseas in August 1978, he served as Executive Officer of Camp Garcia, Vieques, Puerto Rico, until December 1978.

General Brabham's next assignment was as the Program Coordinator for the Air Cushion Landing Craft Development and Acquisition Program on the staff of the Chief of Naval Operations, Washington, D.C. On July 2, 1981, he assumed command of the 2d Combat Engineer Battalion, Camp Lejeune, N.C., and commanded that unit until July 1983, when he was assigned duties as the Assistant Chief of Staff, G-4, 2d Marine Division.

From August 1984 until July 1986, General Brabham was assigned duties as the Assistant Chief of Staff, G-4, II MAF, Camp Lejeune, N.C. General Brabham was next assigned as the Deputy Director for Logistics, J-4, USCENTCOM, MacDill AFB, Fla. While serving in this capacity, he was selected for promotion to brigadier general in November 1988. He was advanced to brigadier general on June 23, 1989, and was assigned duty as the Commanding General, 1st Force Service Support Group, FMF, Camp Pendleton, Calif., on July 14, 1989. He commanded that Unit during its participation in Operations Desert Shield and Desert Storm. On July 8, 1991, he was assigned duty as Director, Marine Air-Ground Training and Education Center. He was advanced to his present grade on March 10, 1992, and assumed his current assignment on June 29, 1992.

His decorations and medals include: the Distinguished Service Medal; Defense Superior Service Medal; Legion of Merit; Meritorious Service Medal; Navy Commendation Medal with Combat "V" and gold stars in lieu of a second and third award; Navy Achievement Medal; Presidential Unit Citation; Navy Unit Commendation; Meritorious Unit Commendation; Vietnam Service Medal; Southwest Asia Service Medal; Republic of Vietnam Cross of Gallantry with gold star; Vietnamese Honor Medal, 1st Class; Republic of Vietnam Meritorious Unit Citation (Gallantry Cross Color); Republic of Vietnam Meritorious Unit Citation (Civil Actions Color, 1st Class); the Republic of Vietnam Campaign Medal; and the Kuwait Liberation Medal.

Major General Brabham is married to the former Sally Snyder of Port Clinton, Ohio. They have three sons, Paul, Jim and Joe.

(Revised Oct. 6, 1992 HQMC)

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PREPARED STATEMENT OF MAJOR GENERAL JAMES A. BRABHAM

COMMANDER, MARINE CORPS SYSTEMS COMMAND

INTRODUCTION

Mr. Chairman and distinguished members of the committee, I thank you for this opportunity to present the fiscal year 1995 budget request for the Marine Corps portion of the Navy Research, Development, Test and Evaluation (RDT&E,N) and the Procurement, Marine Corps (PMC) appropriations.

The Marine Corps is a unique air-ground team, highly mobile, lightly armored and lethal. From disaster relief to forward presence, humanitarian intervention to forcible entry, and peacemaking to peacekeeping the Corps stands ready to protect American interests, influence, and ideals as the Nation's premier expeditionary force in readiness. To provide forward presence and crisis response, Navy and Marine units are located at sea and ashore, near major and projected global "hot spots". Their training, tactics, organization, equipment, and personnel are geared to respond to the uncertainties that characterize the current national security environment. During the past year naval forces responded to crises around the world to include Somalia, Haiti, and the Adriatic.

While it is evident that the projected national security threat will be different, the range of roles and missions relevant to the Marine Corps in meeting that threat have not changed. Our Nation expects its Marines to be prepared to go in harm's way and to prevail in protecting American interests, influence, and ideals. With your support we will continue to meet that expectation.

The 1995 budget request represents our effort to implement a strategic investment plan within resource constraints. At the requested resource level we will focus on maintaining our equipment readiness within current capabilities, remaining interoperable within the joint command and control arena, and providing training ammunition to Marines.

We continue to use non-developmental items, and product improvements to reduce the cost of doing business as well as participating in joint programs and complementary efforts with other Services. Over eighty percent of our FY95 PMC and RDT&E,N budget requests are related to a joint program or programs in which another Service has the lead. These efforts will be continued but are not in themselves the solution to adequately modernizing the force.

RDT&E,N and PMC efforts are targeted to satisfy our highest prioritized requirements in the following areas:

- Command and Control Interoperability Programs
- Modifications and Product Improvements
- Ammunition

Command and Control Interoperability Programs. Over one third of the FY 95 procurement budget request and over one half of the RDT&E,N request are in support of Command, Control, Communications and Intelligence (C3I). This area includes significant investments in radios, intelligence support equipment, aviation and artillery command and control systems, and position location and navigation capabilities.

Modifications and Product Improvements. One third of the procurement budget request supports modifications, product improvements, and rebuys to enhance and maintain the performance of current equipment and systems. These are efforts to address deficiencies in such proven performers as the M-198 Howitzer and Light Armored Vehicles.

Ammunition. One fourth of the procurement budget request supports ammunition requirements. An increase in the FY 1995 Marine Corps ammunition budget request over 1994 funding represents an initial effort to get to a level of funding that does not rely on the current drawdown of excess war reserve stocks.

Requirements for equipment modernization are addressed through our rigorous Combat Development Process. Energetic mission area assessments to focus our planning and programming, and disciplined acquisition are placing unprecedented emphasis and scrutiny on warfighting capability and affordability. This process allows insertion of new technology where the payoff is the greatest.

The remainder of this statement will discuss in detail the Research, Development, Test and Evaluation (RDT&E,N) and Procurement, Marine Corps (PMC) appropriations.

MARINE CORPS GROUND ALLOCATION OF RDT&E,N

In fiscal year 1994, Congress authorized and appropriated $224 million for Research and Development of Marine Corps ground weapon systems. We are requesting that you approve $174 million in fiscal year 1995.

The fiscal year 1995 Marine Corps tactical, ground research and development request continues to concentrate on (1) development of a replacement for our current amphibious assault vehicle, (2) gaining and maintaining full interservice interoperability with our communications, command, control and intelligence systems, and (3) countermine efforts. We are participating in joint efforts wherever possible, and plan to take full advantage of the other Services' developmental efforts for weaponry, vehicles, computers and software systems.

We are requesting $24.5 million for the Advanced Amphibious Assault Vehicle (AAAV) program, which continues to be our highest ground priority. With Concept Exploration of this program nearly complete, all operational effectiveness analyses and war games clearly indicate that an Advanced Amphibious Assault Vehicle (AAAV) is the required solution for our ship-to-shore and land mobility requirements. The AAAV's inherent multi-mission capabilities make it the answer for surface mobility, the rapid build-up of combat power ashore and operational maneuver from the sea.

Both the United Defense (formerly FMC and BMY) and General

Dynamics near full-scale Advanced Amphibious Assault Vehicle (AAAV) hydro-dynamic test rigs have successfully demonstrated speeds in excess of 30 knots on the water. Each contractor is updating their AAAV Conceptual Design, completing technical risk-reducing experiments, and continuing development, construction and testing of a full-scale AAAV automotive test rig. These activities will be completed by the end of fiscal year 1995. The Assistant Secretary of the Navy's (Research, Development and Acquisition) independent technical assessment team (Office of Naval Research) has strongly recommended that this program proceed with development of a full-scale prototype vehicle.

Current plans are to conduct the Milestone I review of the AAAV during fiscal year 1994. During the Demonstration and Validation phase in fiscal year 1995, we plan to award a contract to a single competitor to fabricate a full system prototype.

Our fiscal year 1995 request includes $17.8 million for exploratory development and $26 million for advanced technology demonstrations. These amphibious science and technology (S&T) efforts involve mine detection and neutralization, obstacle reduction, weaponry, battlefield electronic support, and engine propulsion technology. Joint advanced technology demonstrations are requested in stand-off mine detection, and mine countermeasures in the surf zone and craft landing zone. The Marine Corps S & T Program continues to develop needed capabilities to support Operational Maneuver from the sea in coordination with the other services.

Our Marine Corps Program Wide Support request contains $6.3 million: $2.3 million for our Marine Corps Studies and Analyses; $1.9 million for the Marine Corps Operational Test & Evaluation Activity (MCOTEA); and $2.1 million for the Human Resources Management and Forecasting project.

Intelligence improvements in data collection, fusion, analysis and dissemination are requested for the Intelligence Analysis Systems ($3.1 million), and the Tactical Electronic Reconnaissance Processing and Evaluation System ($4.9 million).

Funds are requested to continue improvements in air defense and aviation command and control systems to support tactical missile defense and enhance mobility. $0.8 million is requested for Air Defense Missile Systems Improvements, $0.1 million for Aviation Radar Improvements, and $1.4 million for software improvements to our Tactical Air Operations Module. Additionally, $1.1 million is requested for our Improved Direct Air Support Center.

To support automated ground command and control, $2.7 million is requested for the Tactical Combat Operations system and $5.3 million for the multi-service Advanced Field Artillery Tactical Data System.

Continuing communications, and command and control improvements include $2.4 million for Unit Level Circuit Switch and Data Module Upgrades. This level of funding will support participation with the Army in Demand Assigned Multiple Access (DAMA) upgrades and development of man-portable MILSTAR satellite communications terminals.

Interoperability and systems integration improvements are addressed with a request for $6.7 million for Marine Air/Ground Task Force Command, Control, Communications, Computers and Intelligence--Systems Engineering and Integration. This effort provides an integrated architecture and specifications for common command and control software and hardware. Additionally, we are requesting $1.4 million for Joint Interoperability of Tactical Command and Control Systems (JINTACCS) and $3.3 million for the Tactical System Intra/Interoperability Program (TACSIIP). These systems integration and interoperability efforts are being closely coordinated to reduce risk and attain efficiency.

To increase anti-armor lethality and the survivability of individual Marines, we are requesting $8.4 million for the Short Range Anti-tank Weapon program now titled PREDATOR. PREDATOR will provide the individual Marine with a main battle tank killer that is disposable, proliferable in large numbers, fire-and-forget, and capable of soft-launch for firing from within enclosed spaces. In accordance with Congressional guidance, joint program status is being pursued with the Army. Additionally, $2.4 million is requested for Marine Corps Ground Weapons improvements to include the joint Thermal Imaging System.

We thank you and appreciate your support in approving $5.6 million for the Marine Enhancement Program in fiscal year 1994. Like the Army's Soldier Enhancement Program, this program enhances the survivability of the infantryman, the lethality of his weapons, and his total effectiveness in combat. We have included $3.5 million in this budget request for the Marine Enhancement Program. We will continue to coordinate with the Army to enhance the synergism of the Marine Enhancement and Soldier Enhancement Programs.

The fiscal year 1995 Marine Corps research and development request provides for the attainment of operationally effective combat capabilities. Your continued support for the Marine Corps' development efforts is essential to the accomplishment of our mission within the reality of rapidly changing global events and national priorities.

PROCUREMENT, MARINE CORPS

Congress authorized and appropriated $440.2 million in fiscal year 1994 for Marine Corps procurement programs. The fiscal year 1995 request of $554.6 million will allow us to focus on the most urgent modernization and sustainability requirements. This budget request begins our effort to effectively equip our force level of 174,000.

Budget Activity 1, Ammunition

Training our Marines in basic combat skills remains paramount. The FY 1995 budget request of $132.4 million reflects an increase of $54.8 million over the FY 1994 level and begins a trend of higher funding levels to meet future training and sustainability ammunition requirements. Previous years reflected an opportunity to reduce existing ammunition stockpile excesses to meet training requirements. The ability to train using Prepositioned War Reserve stock excesses will only be possible through FY 1996. Our FY 1995 budget request reflects this reality.

Budget Activity 2 - Weapons and Tracked Combat Vehicles

The Marine Corps will continue its emphasis on tactical mobility and flexibility with the purchase of modification kits and engineering changes for the Amphibious Assault Vehicle (AAV7A1). These will provide the AAV7A1 with more reliable and serviceable components, improve safety, and extend their service life until the introduction of the AAAV.

The fiscal year 1995 request of $21.6 million allows us to continue to modify the Light Armored Vehicle (LAV) with thermal sights. These sights will significantly increase the effectiveness of reconnaissance and accuracy by providing the LAV-25 gunner with state-of-the-art thermal imaging capability.

Enhancements are also being made to our M1A1 Main Battle Tank through the procurement of the Armament Enhancement Initiative. This will allow the M1A1 to accept planned ammunition upgrades through hardware and software modifications to the tank's Fire Control System. The Armored Vehicle Launched Bridge modification will upgrade the existing bridge to support the M1A1 at full span.

Budget Activity 3 - Guided Missiles and Equipment

In fiscal year 1995, we will continue our procurement of the Avenger to provide close-in air defense of the Marine Air Ground Task Force (MAGTF). The Avenger is a lightweight, highly mobile, gun-missile hybrid mounted on a High Mobility Multi-purpose Wheeled Vehicle (HMMWV). Using state of the art technology in Forward Looking Infra-Red and Laser Range Finder systems, the Avenger revolutionizes the concept of operation for Stinger gunners by providing eight ready-to-fire missiles for a rapid shoot-on-the-move, day/night, adverse weather capability.

Our efforts in fiscal year 1995 will also procure modification kits and components for the improvement of the TOW missile. The Missile Ordnance Inhibitor Circuit-Enhanced (MOIC-E) will be installed to ensure that it does not accidentally detonate. The Practice Warheads modification will replace explosive warheads with practice warheads to preclude catastrophic damage to targets during live fire training and reduce overall training costs.

Budget Activity 4 - Communications and Electronics Equipment

In fiscal year 1995, the Marine Corps continues the procurement of Communication, Command and Control (C3) assets to ensure that we have the critical capability to communicate. We will procure new systems and modernize existing equipment stressing joint service and combined forces communications.

In this regard, the Marine Corps is continuing its participation in the Joint Tactical Information Distribution System (JTIDS), the Advanced Field Artillery Tactical Data System (AFATDS) and the Joint Services Imagery Processing System (JSIPS).

The Joint Tactical Information Distribution System (JTIDS) provides a high capacity, jam-resistant, secure digital communications capability for tactical command and control and sensor host platforms.

The Advanced Field Artillery Tactical Data System (AFATDS) is an Army-lead program that will provide digital automated command and control for fire support coordination and tactical fire direction functions to all Fire Support Coordination Centers, Fire Direction Centers, Direct Air Support Centers, and Supporting Arms Coordination Centers. It will enhance the fire support capabilities and coordination of surface, naval, and close air support for the Marine Air Ground Task Force (MAGTF) and provide a link to the Army supporting arms command and control system.

The Joint Service Imagery Processing System (JSIPS) is composed of four shelters and will be procured by the Defense Airborne Reconnaissance Office. The National Input Shelter receives the digital imagery from National Imagery sources and processes it into visible images. The Softcopy Exploitation Shelter displays the imagery on three workstations where imagery interpreters exploit and disseminate reports and imagery products. The Communication Support Shelter provides the communication interface for data, secure voice, and clear voice communications. It also contains the automated message processing function. The System Support Shelter provides the storage space and work benches for the repair and maintenance of the various JSIPS components.

The Marine Corps has continued to enhance its Intelligence Support Equipment program. In FY 1995, we will procure the following Intelligence Support Equipment: Manpack Secondary Imagery Dissemination System (SIDS), TROJAN Special Purpose Integrated Remote Intelligence Terminal (SPIRIT) II, Tactical Remote Sensor System (TRSS) and the Marine Expeditionary Force

Intelligence Analysis System (IAS).

The Manpack SIDS will provide the capability to collect, store, display, and transmit imagery over existing MAGTF communications assets and will be fielded with reconnaissance and intelligence collection units in the MAGTF.

The TROJAN SPIRIT II will provide the MAGTF commander with a highly-mobile, secure, dedicated intelligence satellite communications system with direct, near-real-time connectivity to national agencies. It will utilize commercial satellites to exchange bulk data, voice and imagery products between deployed Marine forces and theater or CONUS-based sources.

The TRSS detects the presence of physical disturbances caused by movements within a pre-designated area of surveillance. Coded signals are transmitted or relayed to a monitoring station. The monitoring station provides for analysis of the data to determine type, location, direction of travel, speed, number, and size of detected activity.

The IAS will serve as an all-source intelligence fusion center providing intelligence analysts the capability to rapidly process information from a wide range of national, theater, and tactical intelligence sources. As a communication link, it will disseminate critical intelligence information to the Commander and other MAGTF elements.

We are also continuing to procure our Night Vision Equipment. The AN/PVS-7B Night Vision Goggle significantly enhances night fighting operations. This is a third generation image intensifying system capable of detecting a man-size target at 200 meters in starlight and 300 meters in moonlight. It is six ounces lighter than the older night vision goggle and three times as sensitive. The system also incorporates an automatic shut-off for protection from bright light.

The FY 1995 request for the Position Location Report System (PLRS) will be used to procure Global Positioning System Interface Units (GPSIU). GPSIU will allow PLRS units to interface with a Global Positioning System (GPS) receiver, thereby increasing the mobility of the PLRS network.

Other funding within this budget activity will continue procurement of Manpack Radios and Equipment. Funding will also support the TSC-96 Fleet Satellite Communication Terminal PIP, and enhance the Tactical Air Operations Modules. These efforts will increase operational capabilities and correct equipment deficiencies of end items previously fielded.

Budget Activity 5 - Support Vehicles

The fiscal year 1995 funding of $28.0 million will allow us to continue replacement of our aging commercial vehicles, fill out our trailer inventory and modify tactical vehicles to ensure safe operation.

The procurement of additional Logistics Vehicle System (LVS) MK48 front power units, MK14 container trailers, MK15 wrecker trailers, MK16 semi-trailer adapter trailers, and MK17 cargo trailers with cranes will fill existing deficiencies.

FY 1995 funds will also procure modification kits to ensure that safe and improved vehicles are available for training and warfighting operations.

Budget Activity 6 - Engineer and Other Equipment

In FY 1995, we will continue to buy DoD standard generators, military standard environmental control units, field medical equipment, garrison material handling equipment, and other equipment to support our weapons systems and improve the sustainability of the Fleet Marine Forces.

Finally, to improve resource utilization efficiency, especially in ammunition, the Marine Corps is investing in a variety of training devices and simulators which will provide a less expensive, alternative method for training Marines in combat related skills. Such a device is the Indoor Simulated Marksmanship Trainer (ISMT). ISMT is an interactive video disc system which, in combination with eye-safe laser, simulates the use of direct fire weapons to accomplish the training, realism, and accuracy needed for efficient small arms training.

Budget Activity 7 - Spares and Repair Parts

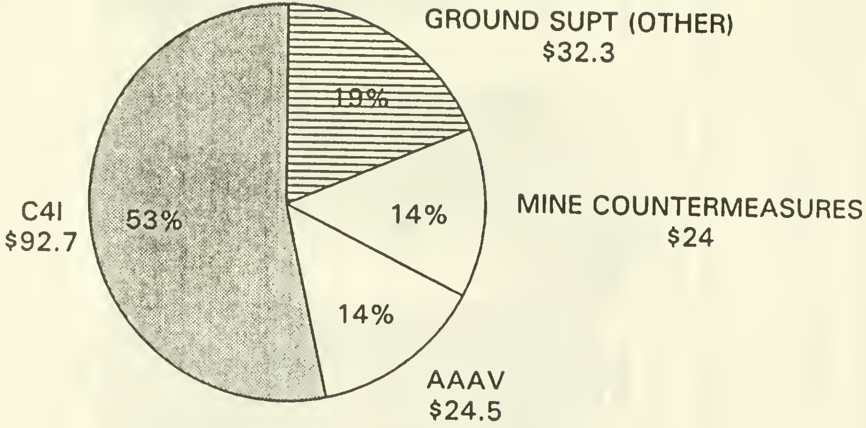
Funding in this budget activity will provide for the reimbursement of the Defense Business Operations Fund (DBOF) for procurement of initial spares to support new equipment and systems being introduced to our units. Additionally, funding for replenishment spares to support critical low density equipment and weapon systems is included.

CONCLUSION

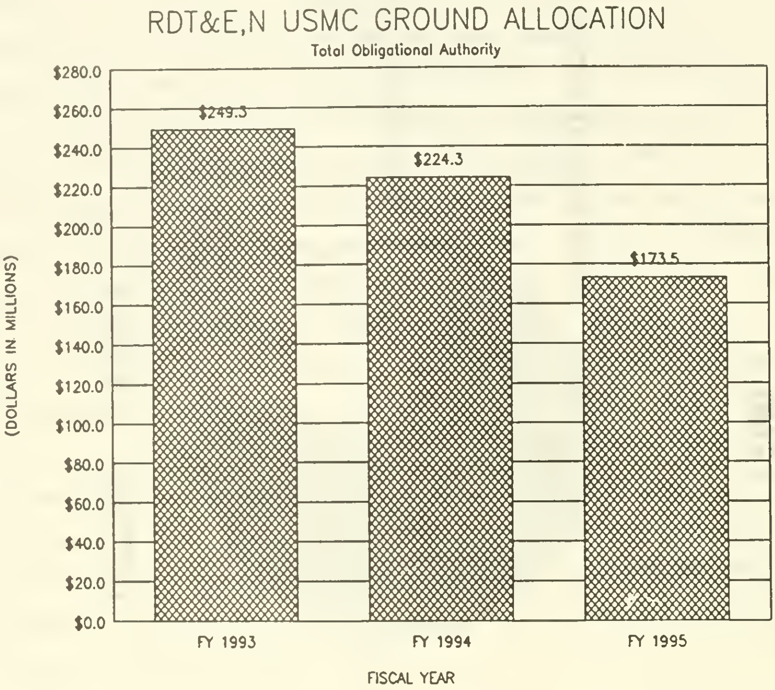
Our FY 1995 budget requests for RDT&E,N and PMC represent a strategic plan for combat effectiveness within resource constraints. The plan focuses on the most urgent equipment modernization and sustainability requirements. As the Nation's premier expeditionary force in readiness, the Marine Corps stands ready to protect American interests, influence and ideals. We will continue to provide priority capabilities to our operational forces so that they may meet the enemy on the modern battlefield and win with minimal casualties.

With your assistance, the Marine Corps will remain the ready, relevant, viable force required to meet the many diverse threats to the security and interests of the Nation. We are ever mindful of the fact that success in meeting these threats will be derived from the consistently outstanding efforts of the individual Marine. We cannot compromise those efforts and must provide the best equipment and support possible to our Marines. On their behalf and that of our Commandant, I offer our gratitude for your continuing support.

FY 1995 RDT&E,N
($M)



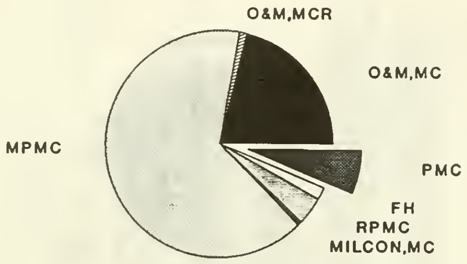
TOTAL: $173.5



	(DOLLARS IN MILLIONS)		
	FY 1993	FY 1994	FY 1995
EXPLORATORY DEVELOPMENT (6.2)	21.6	16.9	17.8
ADVANCED DEVELOPMENT (6.3)	33.2	35.9	30.5
DEMONSTRATION AND VALIDATION (6.4)	75.1	43.6	44.4
ENGINEERING AND MANUFACTURING DEVELOPMENT (6.5)	29.1	27.2	14.4
RDT&E MANAGEMENT SUPPORT (6.6)	14.4	16.9	11.9
OPERATIONAL SYSTEMS DEVELOPMENT (2.7)	75.9	83.8	54.5
TOTAL	$249.3	$224.3	$173.5

USMC TOTAL OBLIGATIONAL AUTHORITY

($ IN MILLIONS)

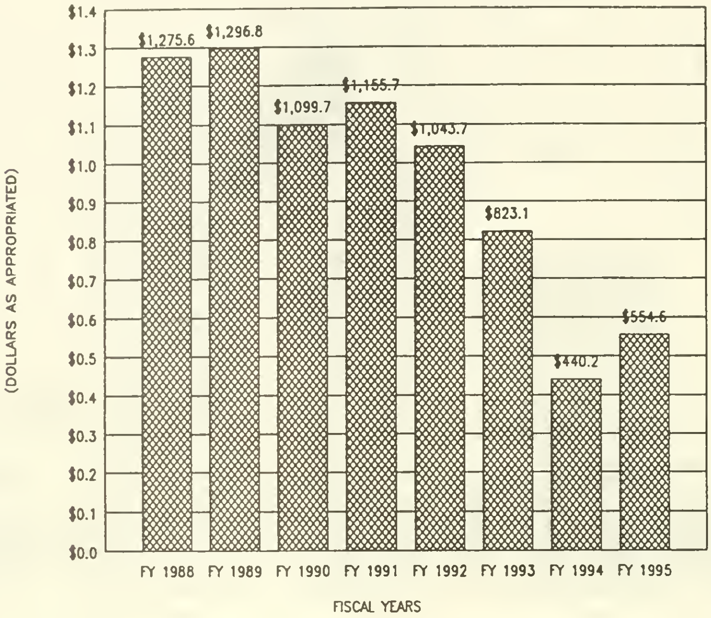


FY 1995

APPROPRIATION TITLE		FY 1995 AMOUNT	PERCENT
MILITARY PERSONNEL, MARINE CORPS	MPMC	5778.6	64.94%
MILITARY PERSONNEL, MARINE CORPS RESERVE	RPMC	353.9	3.98%
OPERATION & MAINTENANCE, MARINE CORPS	O&M,MC	1918.4	21.56%
OPERATION & MAINTENANCE, MARINE CORPS RESERVE	O&M,MCR	81.5	0.92%
PROCUREMENT, MARINE CORPS	PMC	554.6	6.23%
FAMILY HOUSING, MARINE CORPS ALLOCATION	FH	154.8	1.74%
MILITARY CONSTRUCTION, MARINE CORPS	MILCON,MC	56.5	0.63%
	TOTAL	$8,898.3	100.00%

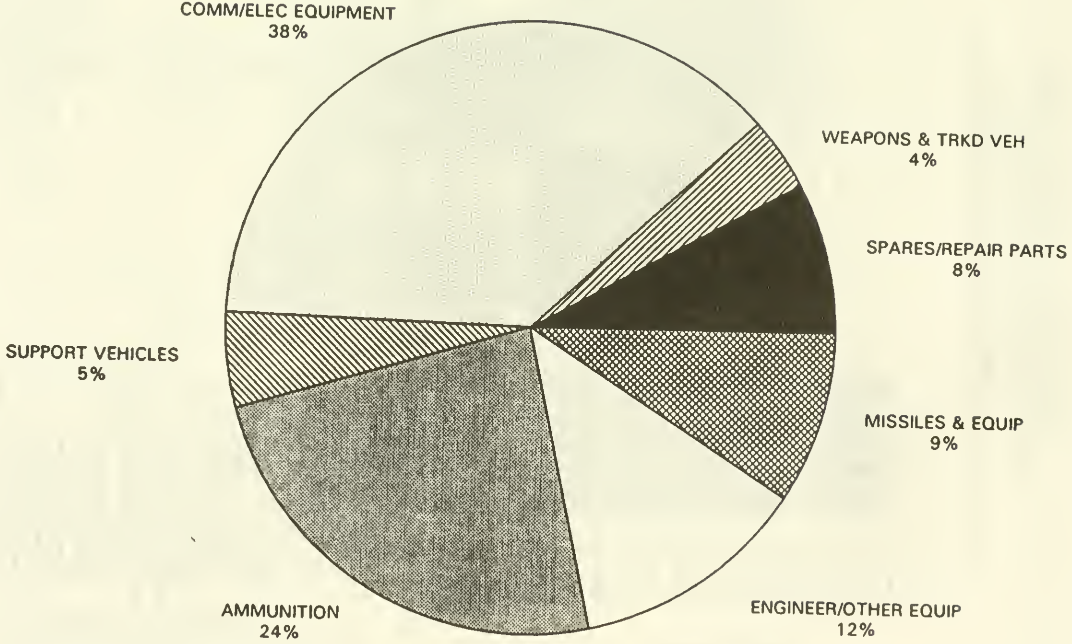
PROCUREMENT, MARINE CORPS

TOTAL OBLIGATIONAL AUTHORITY



BUDGET ACTIVITY	(DOLLARS IN MILLIONS)		
	FY 1993	FY 1994	FY 1995
1 - Ammunition	179.5	77.6	132.4
2 - Weapons & Tracked Combat Vehicles	109.2	81.3	21.6
3 - Guided Missiles & Equipment	57.5	22.0	50.3
4 - Communication & Electronics Equipment	228.0	161.2	208.4
5 - Support Vehicles	86.3	27.5	28.0
6 - Engineer & Other Equipment	131.8	41.5	69.2
7 - Spares & Repair Parts	30.8	29.1	44.5
TOTAL	$823.1	$440.2	$554.6

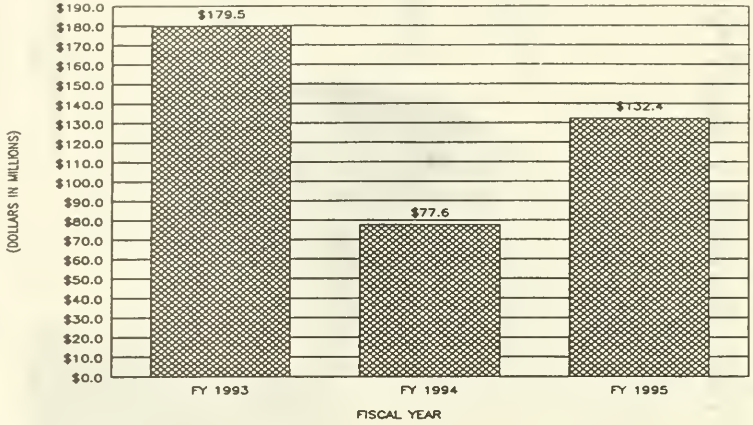
FY 1995
DISTRIBUTION BY PMC BUDGET ACTIVITY



TOTAL: $554.6

PROCUREMENT, MARINE CORPS

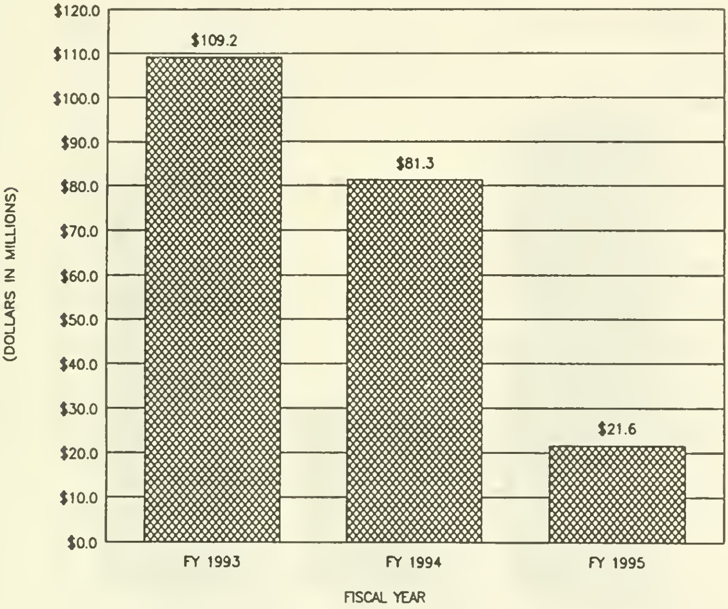
BUDGET ACTIVITY 1 - AMMUNITION



P-1	NOMENCLATURE	(DOLLARS IN MILLIONS)		
		FY 1993	FY 1994	FY 1995
1	5.56 MM, All Types	13.2	1.2	7.1
2	7.62 MM, All Types	5.3	0.0	0.0
3	Linear Charges, All Types	0.0	0.2	0.0
4	.50 Caliber, All Types	10.4	0.8	1.9
5	40 MM, All Types	24.4	4.3	12.4
6	60 MM Ammunition, All Types	4.6	0.0	16.0
7-9	81 MM Ammunition, All Types	8.7	17.4	23.2
10-11	120MM Tank Ammunition	0.0	7.1	15.2
12-13	155 MM Ammunition	81.2	0.0	12.0
14-15	Fuzes, All Types	0.0	18.3	17.2
16	83 MM Rocket HEAA (SMAW)	15.4	0.0	0.0
17-18	25 MM Ammunition, All Types	2.9	2.4	8.9
19	9 MM Ammunition, All Types	0.0	2.2	1.9
20	Mines, All Types	0.0	3.2	0.0
21	Grenades, All Types	0.3	0.0	0.0
22	Rockets, All Types	0.0	10.3	2.2
23	Ammo Modernization	10.4	7.8	9.0
24	Items Less Than <$2 Million	2.8	2.5	5.5
	TOTAL	$179.5	$77.6	$132.4

PROCUREMENT, MARINE CORPS

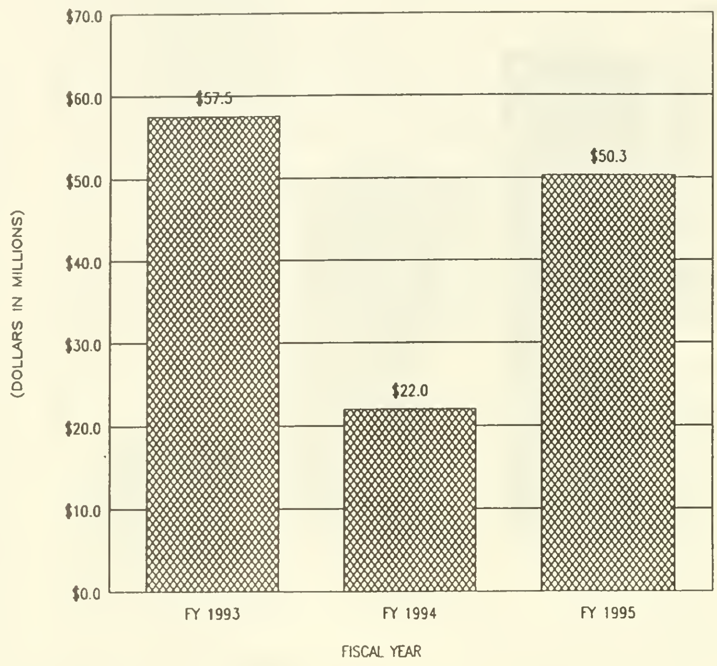
BUDGET ACTIVITY 2 - WEAPONS AND TRACKED COMBAT VEHICLES



P-1	NOMENCLATURE	(DOLLARS IN MILLIONS)					
		FY 1993		FY 1994		FY 1995	
		QTY /	$	QTY /	$	QTY /	$
25	AAV7A1 PIP	- /	6.7	- /	2.4	- /	3.0
26	Light Armored Vehicle PIP	- /	0.0	80 /	6.6	180 /	14.6
27	Light Armored Vehicle	- /	10.0	21 /	65.4	- /	0.0
28	Modification Kits (Tracked Vehicles)	- /	16.4	- /	1.0	- /	3.5
29	Items Less Than $2 Million (Tracked Vehicles)	- /	0.0	- /	0.0	- /	0.0
30	Multi-Launch Rocket System (MLRS)	18 /	61.0	- /	0.0	- /	0.0
31	Modification Kits (Artillery & Other)	- /	12.9	- /	3.9	- /	0.5
32	Items Less Than $2 Million (All Other)	- /	2.2	- /	2.0	- /	0.0
	TOTAL		$109.2		$81.3		$21.6

PROCUREMENT, MARINE CORPS

BUDGET ACTIVITY 3 - GUIDED MISSILES AND EQUIPMENT

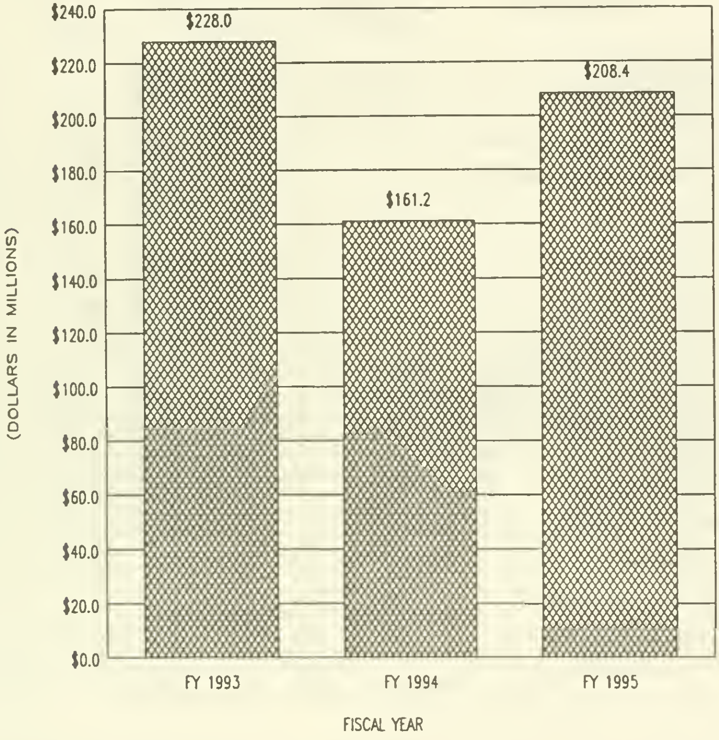


P-1	NOMENCLATURE	FY 1993 QTY /	FY 1993 $	FY 1994 QTY /	FY 1994 $	FY 1995 QTY /	FY 1995 $
33	HAWK Modifications	– /	29.0	– /	2.1	– /	0.0
34	Pedestal Mounted Stinger (Less Adv Procurement)	– /	24.2	– /	19.2	– /	50.2
35	Pedestal Mounted Stinger (Adv Procurement)	– /	4.3	– /	0.0	– /	0.0
36	Missile Modification	– /	0.0	– /	0.7	– /	0.1
37	Items Less Than $2 Million	– /	0.0	– /	0.0	– /	0.0
	TOTAL		$57.5		$22.0		$50.3

(DOLLARS IN MILLIONS)

PROCUREMENT, MARINE CORPS

BUDGET ACTIVITY 4 - COMMUNICATIONS AND ELECTRONICS EQUIPMENT



NOMENCLATURE	(DOLLARS IN MILLIONS)		
	FY 1993	FY 1994	FY 1995
BUDGET ACTIVITY 4 (See next page for by line breakdown)	$228.0	$161.2	$208.4

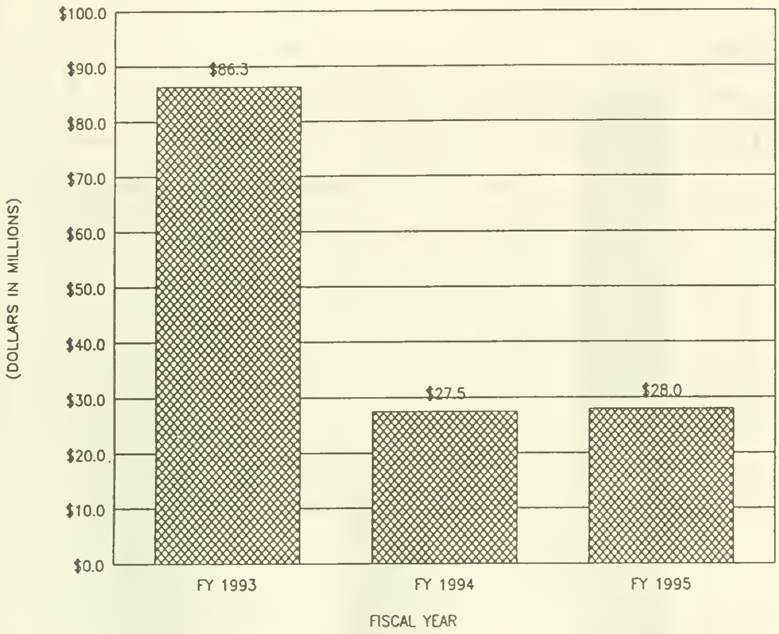
PROCUREMENT, MARINE CORPS

BUDGET ACTIVITY 4 - COMMUNICATIONS AND ELECTRONICS EQUIPMENT

P-1	NOMENCLATURE	(DOLLARS IN MILLIONS)		
		FY 1993	FY 1994	FY 1995
		QTY / $	QTY / $	QTY / $
38	Manpack Radios & Equipment	– / 3.0	– / 0.0	– / 1.8
39	Global Positioning System	3831 / 7.1	– / 0.0	– / 0.0
40	Vehicle Mounted Radios & Equipment	– / 6.4	– / 0.1	– / 0.0
41	AN/GRC-171B(V)4	421 / 19.1	– / 0.0	– / 0.0
42	TSC-96 PIP Fleet Sat Communications Terminal	5 / 2.0	4 / 1.7	1 / 0.5
43	Unit Level Circuit Switch (ULCS)	– / 7.5	– / 11.8	– / 0.0
44	Tactical Communication Center Equipment	– / 0.0	26 / 2.9	– / 0.0
45	JTIDS INTG	– / 0.0	– / 1.7	– / 8.8
46	Signal Generator	200 / 2.0	– / 0.0	– / 0.0
47	Auto Test Equipment	– / 0.0	– / 0.0	– / 4.7
48	Electronic Test Equipment	– / 6.8	– / 4.8	– / 4.4
49	SINCGARS Radio System	– / 58.4	– / 45.9	– / 49.0
50	Modification Kits (Tel)	– / 3.4	– / 3.6	– / 1.1
51	Items Less Than $2 Million (Tel)	– / 2.4	– / 1.5	– / 1.6
52	Position Location Reporting System (PLRS)	– / 0.0	– / 3.3	– / 3.1
53	Tactical Air Operations Module (TAOM)	– / 0.0	– / 2.2	– / 3.7
54	Advanced Tactical Air Command Central (ATACC)	1 / 6.8	1 / 9.6	– / 0.0
55	Marine Tactical Commmand & Control System (MTACCS)	– / 8.3	– / 2.8	– / 8.6
56	Multi-Service Advance Field Artillery Tactical Data System	– / 0.0	214 / 9.6	113 / 5.1
57	Joint Service Imagery Processing System (JSIPS)	– / 0.0	– / 0.0	1 / 28.8
58	Meteorological Systems	– / 0.0	– / 0.0	14 / 6.5
59	Intelligence Support Equipment	– / 41.6	– / 26.0	– / 33.6
60	Modification Kits (Intel)	– / 0.5	– / 4.7	– / 0.1
61	Items Less Than $2 Millon (Intel)	– / 0.8	– / 2.7	– / 0.1
62	Electronic TMDE Repair Facility	– / 0.0	4 / 0.7	4 / 0.7
63	Mechanical TMDE	– / 0.9	– / 0.9	– / 0.9
64	Night Vision Equipment	– / 30.1	– / 12.4	– / 29.6
65	ADP Equipment	– / 15.7	– / 10.1	– / 12.9
66	Test, Calibration & Maintenance Support	– / 0.9	– / 0.9	– / 1.5
67	Modifiction Kits (NonTel)	– / 2.2	– / 1.3	– / 1.1
68	Items Less Than $2 Million (NonTel)	– / 2.2	– / 0.0	– / 0.0
	TOTAL	$228.0	$161.2	$208.4

PROCUREMENT, MARINE CORPS

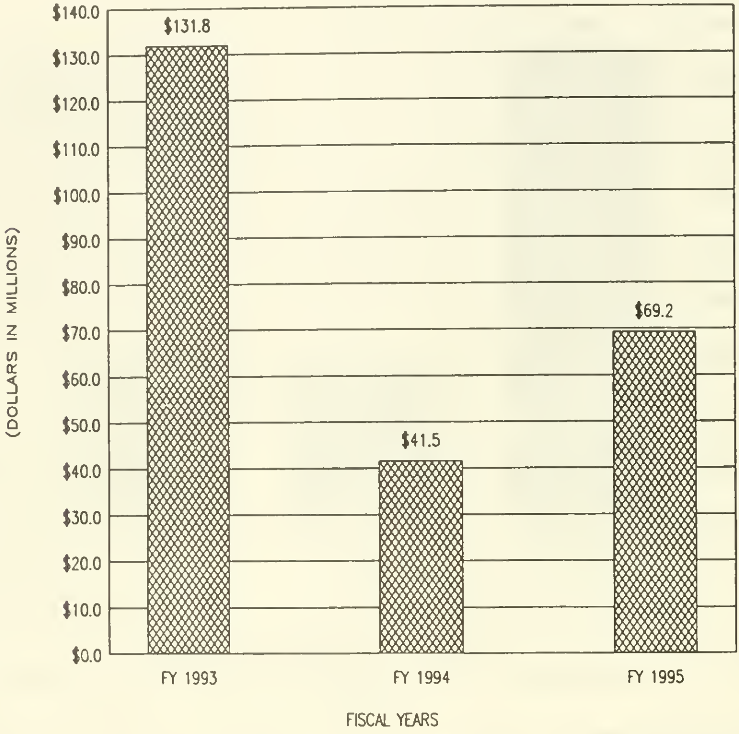
BUDGET ACTIVITY 5 - SUPPORT VEHICLES



P-1	NOMENCLATURE	(DOLLARS IN MILLIONS)					
		FY 1993		FY 1994		FY 1995	
		QTY /	$	QTY /	$	QTY /	$
69	Commercial Passenger Vehicles	46 /	2.2	96 /	1.7	103 /	1.8
70	Commercial Cargo Vehicles	- /	8.8	- /	8.3	- /	7.7
71	High Mobility Multipurpose Wheeled Vehicle (HMMWV)	1460 /	50.0	- /	0.0	- /	0.0
72	Logistics Vehicle System	164 /	18.0	81 /	12.1	68 /	11.2
73	Trailers, All Types	- /	2.0	- /	1.3	- /	2.8
74	Modification Kits	- /	3.5	- /	4.2	- /	4.5
75	Items Less Than $2 Million	- /	1.7	- /	0.0	- /	0.0
	TOTAL		$86.3		$27.5		$28.0

PROCUREMENT, MARINE CORPS

BUDGET ACTIVITY 6 - ENGINEER AND OTHER EQUIPMENT



NOMENCLATURE	(DOLLARS IN MILLIONS)		
	FY 1993	FY 1994	FY 1995
BUDGET ACTIVITY 6 (See next page for by line breakdown)	$131.8	$41.5	$69.2

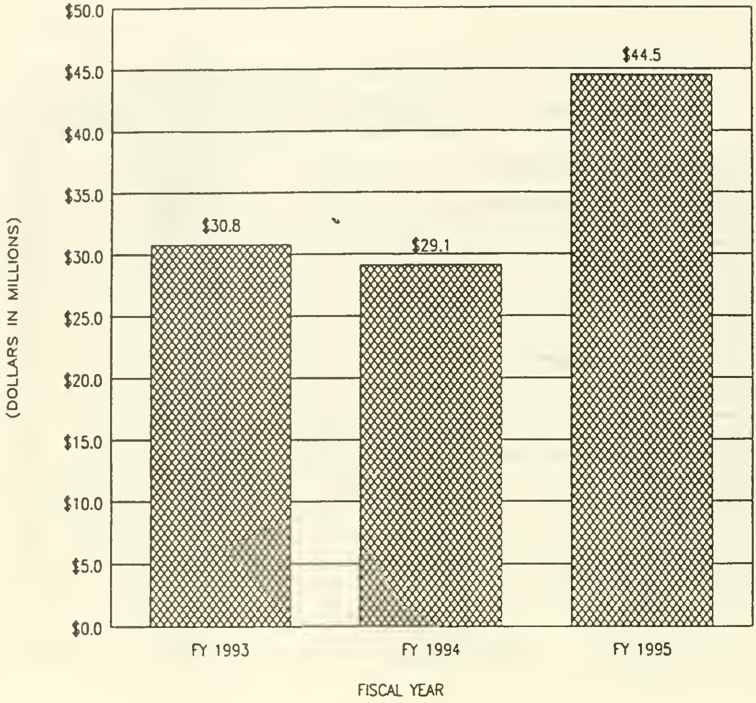
PROCUREMENT, MARINE CORPS

BUDGET ACTIVITY 6 - ENGINEER AND OTHER EQUIPMENT

P-1	NOMENCLATURE	(DOLLARS IN MILLIONS)					
		FY 1993		FY 1994		FY 1995	
		QTY /	$	QTY /	$	QTY /	$
76	Environmental Control Equipment, Assorted	– /	0.0	– /	2.0	– /	2.2
77	Armored Combat Excavator	87 /	63.7	– /	0.0	– /	0.0
78	Tactical Fuel/Water Systems (TFS) Equipment	– /	13.4	– /	1.1	– /	0.0
79	Topographic/Survey Equipment	22 /	1.4	– /	0.0	– /	0.0
80	Power Equipment, Assorted	– /	1.3	– /	2.4	– /	2.6
81	Automatic Building Machine	14 /	2.5	– /	1.8	– /	0.0
82	Command Support Equipment	– /	1.1	– /	1.0	– /	1.6
83	Amphibious Raid Equipment	– /	5.7	– /	1.8	– /	0.3
84	Productivity Investment	– /	2.3	– /	0.0	– /	0.0
85	Physical Security	– /	1.4	– /	0.7	– /	0.8
86	Garrison Mobile Engineer Equipment	– /	3.0	– /	2.1	– /	2.5
87	Telephone System	– /	0.0	– /	0.4	– /	13.4
88	Warehouse Modernization	– /	1.0	– /	2.2	– /	3.7
89	Materiel Handling Equipment	– /	2.2	– /	3.2	– /	3.0
90	First Destination Transportation	– /	3.8	– /	1.9	– /	2.5
91	Lightweight Decontamination System (LDS)	159 /	2.1	– /	0.0	– /	0.0
92	Field Medical Equipment	– /	0.0	– /	3.5	– /	3.5
93	Training Devices	– /	17.0	– /	13.1	– /	25.5
94	Shelter Family	– /	0.0	– /	0.0	– /	0.0
95	Container Family	– /	2.8	– /	3.0	– /	5.3
96	Modification Kits	– /	0.0	– /	0.1	– /	0.6
97	Chemical Agent Monitor (CAM)	170 /	0.9	222 /	1.3	– /	0.0
98	Items Less Than $2 Million	– /	1.2	– /	0.0	– /	1.8
99	Drug Interdiction	– /	5.0	– /	0.0	– /	0.0
	TOTAL		$131.8		$41.5		$69.2

PROCUREMENT, MARINE CORPS

BUDGET ACTIVITY 7 - SPARES AND REPAIR PARTS



P-1	NOMENCLATURE	(DOLLARS IN MILLION		
		FY 1993	FY 1994	FY 1995
--	Initial Spares	30.8	13.7	30.3
--	Replenishment Spares	0.0	15.4	14.2
100	TOTAL	$30.8	$29.1	$44.5

BUDGET ISSUES

Mr. MURTHA. I am pleased, and I applaud your effort to buy what other services are buying. I was just out at Letterkenny Army Depot the other day and I observed a good program of repairing missiles and electronics parts. All the services are sending missiles there, and we certainly need to do more of that.

I realize there are times when you have special things that you have to buy that are important to the individual services, but 80 percent certainly seems good. We have had trouble over the years getting the Navy, in particular, to look at the airplanes that the Air Force is flying and vice-versa, and one of the successes was the F–4.

Since that time we have had almost no success in getting the services to buy the same airplane. I realize there is sometimes a difference in requirements, but it has been frustrating for us because it is so much more expensive. Every different weapon system we have in the inventory costs more money to supply the parts, et cetera. I know that as we are building down we will have some surplus built into the system.

The thing that worries me most is the projected $20 billion shortfall over the next five years in the overall Defense Department and the balloon that is going to meet us a couple of years down the road. I consider procurement and modernization as enhancement of the individual in the field, which may not be available because those dollars won't be there.

I have a number of Members working on programs trying to find ways to stop programs now that we think aren't going to be funded or which will fall by the wayside. We spent too much money trying to develop the A–12. Secretary Cheney said it was right on track and a month later he called me and said they were going to cancel the A–12. We spent $5 billion, I believe, in development costs. I have one of our most astute, brightest members working on this type of thing to determine if there are some systems that we can get rid of and the industrial base is really an important part of it. I have a number of different Members working on this and one of them is Mr. Visclosky, who did such a good job with the C–17 last year.

He, I hope, will be able to make recommendations along with Mr. Livington and Mr. Skeen that some of the programs be cut out this year rather than wait until they just fall by themselves.

The DOD short fall may be $40 billion, and I don't think the projected savings will be there and that is the thing that concerns me the most. We are trying to help make the system more efficient and more effective. In order to do that, I am depending on the Members to come up with some recommendations that may help the Defense Department reduce our spending in the short term, but which would have a real impact down the road so that we can continue to modernize and enhance our forces like we did in Desert Storm.

Mr. Visclosky.

AMMUNITION PROGRAM

Mr. VISCLOSKY. Thank you very much for the kind words.

General, welcome. If I could talk to you about ammunition, which is one of the areas that the Chairman and Members of the Committee are concerned about. A recently completed Army study found that the Army needed to buy 18 different ammunition modernization items, but they have only funded five of these.

Has the Marine Corps done a similar analysis, and if so, what is the Corps' conclusion?

General BRABHAM. Right now, Mr. Visclosky, we are for this current procurement year adequately being served by the Army single manager in their procurement programs. I know of no specific items that we cannot fund right now that we need today.

As I explained, sir, we are right now in a slight bit of an excess condition and are offsetting some of our training requirements with some excesses. That, we project to run out about by the time we start preparing our 1996 request. But right now, the projected deliveries off the Army's production lines to procure our conventional ammunition are meeting our needs.

Mr. VISCLOSKY. Were you covered in the Army study, then?

General BRABHAM. I don't know specifically about that study. They are responsible for making sure that they can procure and produce those items we need and they have our requirements, but I don't know whether they were specifically addressed in that study, sir.

I could provide that for you.

[The information follows:]

The Marine Corps was not covered in the Army's study.

Mr. VISCLOSKY. The Corps did not do an independent study on ammunition modernization?

General BRABHAM. That is correct. We provide our requirement to the Army as the executive agent for conventional ammunition, and they meet our requirements. Ninety-five percent of all ammunition that I procure I buy from the single item manager of the Army.

Mr. VISCLOSKY. For 1994 you don't have deficiencies?

General BRABHAM. That is correct.

Mr. VISCLOSKY. What level of training will be sustained by the ammunition that you have on hand? Is there going to be any change in training and ability to train?

General BRABHAM. Right now our budget request, if approved, is about $132 million. We will be able to train through the delivery period of that ammunition. We have to get back to a level of about $210 million a year, which is our average training commitment for 174,000.

We are still able to use some excesses that are in our system.

Mr. VISCLOSKY. So for 1995 it would not have an impact on training, but in the outyears you would have to see an increase in your current account?

General BRABHAM. That is right. We are recomputing our requirement against the latest guidance that we have received from DOD and we will have those results available in June of this year to make another assessment prior to coming in with the 1996 budget. The requirements may be different, the scenarios have changed.

Mr. VISCLOSKY. The Army is currently procuring two improved, more capable, service rounds for the M1A1 tank. The Marine Corps has not funded either item in the 1995 budget. Do you plan to procure these rounds in the future or are you satisfied with the current versions of the ammunition which you already have in your inventory?

General BRABHAM. I don't have that answer at hand.

Mr. VISCLOSKY. Please provide that for the record.

[The information follows:]

The Marine Corps is currently reviewing and assessing mission requirements for these two rounds. Upon final determination, appropriate budgetary actions will be taken.

I yield to Mr. Darden.

Mr. DARDEN. I thank the gentleman for yielding. I want to tell you how much we appreciate your being here and two, I have looked over your budget. I think it is very modest and certainly the only objection I have is we have not got enough. Also, we are very proud of our facility in Albany, Georgia and I want to thank you for your support of that.

I have to be at another committee meeting in 15 minutes, but I wanted to convey my best wishes to you and thank you for being here. I thank my colleague for yielding.

General BRABHAM. Thank you, Mr. Darden.

MAJOR REGIONAL CONTINGENCIES

Mr. VISCLOSKY. Given the current Marine Corps war reserve stockpile, how adequately are you able to respond to the Defense Planning Guidance requirement to fight and win 2 MRCs?

General BRABHAM. Based upon our current—the guidance that we had when we submitted this budget, which included two MRCs, this budget will keep us adequately provided to that. We have recently received changes to that guidance concerning the timing of the MRCs and other things and we are having to recompute that. But based upon the guidance when we submitted this, sir, we are adequately funded.

Mr. VISCLOSKY. Thank you very much, General. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Dicks.

Mr. DICKS. General, nice to have you here before the Committee.

Mr. MURTHA. I want to point out how few back-up witnesses he has.

Mr. DICKS. They have very little procurement, Mr. Chairman.

Mr. MURTHA. It is austere.

Mr. DICKS. General, I hate the reality of all that. You don't handle the aviation stuff, right? You don't handle the Osprey or any of that?

General BRABHAM. Sir, I do not handle the airplanes or the equipment that directly goes on the airplanes. I handle the aviation support items, the aviation command and control, their ground support equipment.

Mr. DICKS. This is a major requirement. How are you doing on that part of the equation?

General BRABHAM. That is a major part of what we do have allocated in this budget, is upgrading our aviation command and control coming into the joint command and control arena so we can interoperate with other forces in the air and on the battlefield.

That is a good slug of money.

Mr. DICKS. How bad is the ammunition situation?

General BRABHAM. Right now we are in adequate condition in our ammunition. We are ramping back up. We have had some excesses and we are in a period of transition from living off excesses to going back to having to fully fund our ammunition account.

We have $133 million in fiscal year 1995 budget. The long term requirement just for training is about $210 million, so in the next several years we are going to have to fully commit more funds to ammunition.

We are living off some excess stocks right now.

PROJECT CULEBRA

Mr. DICKS. Now, according to a recent article in Defense News the Marine Corps has launched a study called Project Culebra to determine what weapon systems and changes in doctrine and training are required to meet future needs. Is this report true?

General BRABHAM. That is correct, sir.

Mr. DICKS. Who is conducting this study and when will it be completed?

General BRABHAM. Our Marine Corps center at Quantico. I don't know exactly when that study is scheduled for completion. I just know it is ongoing. I can get that and put it in the record.

Mr. DICKS. All right.

[The information follows:]

The study is being conducted by the Center for Naval Analyses and managed by Marine Corps Combat Development Command. The study is scheduled to be completed in July 1995.

Mr. DICKS. According to the article, the Marine Corps plans to identify 35 questions to be addressed in the study. Summarize these questions and provide a complete list for the record.

General BRABHAM. I will do that, sir.

[The information follows:]

The study focuses on the four major aspects of Operational Maneuver from the Sea (OMFTS): Maneuver and Fires; Command and Control; Sustainment (Logistics); and Epilogue (Joint Requirements)

The 35 questions are attached.

Questions for phase I: Applying power from the sea

Question	How to address
1. What are the alternative ways to task organize the elements of NEFs (e.g., entire MAGTFs or specific MAGTF elements from each location), and what are their advantages and disadvantages?	CNA/MCCDC *(exercise)*
2. What is the proper balance of deployment methods (i.e., transport) for a MEF, between the fly-in echelon, MPF, and the assault and assault follow-on echelons of an amphibious force? What circumstances dictate one avenue or the other?	MCCDC
3. What part of the Naval expeditionary force is assembled before arrival in theater?	MCCDC
4. What circumstances in a regional conflict require violent action early?	CNA/MCCDC
5. If violent action is required early, what targets are important to support naval operations (e.g., mine storage facilities)?	Seminar
6. What types of missions are appropriate for small amphibious forces?	Seminar
7. What can amphibious forces do to support battlespace dominance?	Seminar
8. Can we effectively use the sea as a safe haven from which to launch/recover small operations against critical enemy vulnerabilities? (That is, can we apply principles of guerilla warfare to amphibious operations during the early stages of the conflict when we are vastly outnumbered?)	Seminar *(exercise)*
9. How do the capabilities of current forward afloat forces compare to the capabilities required to execute amphibious missions in the early stages of regional wars? If there are differences, how do we get the appropriate capabilities (e.g., change MEUs or use MPF "sets")?	CNA/MCCDC or Thesis
10. How much battlespace needs to be dominated for how long to support the amphibious operations we might execute in the early stage of a regional conflict?	CNA/MCCDC or Thesis

Question	How to address
11. What do the following terms associated with OMFTS mean? • seamless • in-stride • recon/intel/logistics pull • calling audibles (is this the same as intel pull?) • event-driven • paving the high-water mark • diminishing friction in transition from maneuver asea to maneuver ashore (is this the same as paving the high-water mark?) • integrated projection of seapower. • informational warfare • fires/fire support	CNA
12. What are the physical limitations of expected amphibious assault capabilities? • effect of different STS maneuvers on combat power buildup. • fires availability/responsiveness/range and effect on ability to support multiple small units. • space/time requirements for battlespace dominance (and Navy's ability to support?) • how quickly we can "pave the high-water mark" (for both assault and withdrawal). That is, what types of support are required to do so and when they can be brought to bear.	CNA *(exercise)*
13. How do modern precision "indirect fire" weapons (PGMs, terminally guided munitions, long-range NSFS) change the application of fires/fire support?	CNA and Seminar

Question	How to address
14. Does the substantial long-range, rapid-response, high-lethality firepower increase offered by modern precision weapons provide opportunities to change the organization and operating methods of maneuver units (e.g., make them smaller/lighter/faster but capable of bringing "outside" firepower to bear quickly)?	Seminar
15. What is the proper mix of precision weapons and "dumb bombs/bullets" for fires/fire support?	CNA/MCCDC or Thesis
16. How can Navy and Marine aviation forces best train and prepare for operations in a naval expeditionary structure in support of OMFTS?	MCCDC

Questions for phase II: Controlling power from the sea

Question	How to address
17. What changes (e.g., staff structures) need to be made to put together forward afloat, MPF, and other amphibious forces and rapidly create an effective expeditionary fighting force?	
18. What command relationships are required in the NEF to efficiently execute OMFTS?	
19. What actions can be taken during peacetime to ensure units/elements/staffs can work together quickly when task organized, particularly if they come from different locations?	
20. How can Navy and Marine commanders and staffs best train and prepare for operations in a naval expeditionary structure in support of OMFTS?	
21. Should standardized SOPs be developed? If so, for which NEF elements/units and on which subjects?	
22. To what extent should the concepts expressed in new OMFTS terms be implemented (e.g., what is the appropriate mix of independent action, time-driven, event-driven, and command-called "audible" activities in OMFTS)?	
23. What are the information flow requirements to execute the OMFTS style of warfare? What command and control architecture/system is needed to support it?	
24. How can informational warfare support the OMFTS style of warfare?	
25. Where should MAGTF command and control be located during OMFTS? Under what conditions should command and control of a MAGTF transition ashore (should it ever)?	
26. Who should control fires? At what level(s) should various means (lethal and non-lethal) of providing fires be controlled?	

Questions for phase III: Sustaining power from the sea

Question	How to address
27. How and when can we replenish losses/expenditures (primarily supplies and equipment) from operations early in a regional conflict (before large forces arrive from CONUS)? Could we use MPF as a supply source? How (i.e., at sea "cross-decking" or would it be necessary to land)?	
28. What are the physical limitations of expected sustainment capabilities in amphibious forces? How should sustainment be divided between the assault and assault follow-on echelons? (Do we want to change the load plans for logistics support?)	
29. What size force can be sustained by sea-basing? For how long?	
30. Can a combination of sea-basing and shore-basing be used? Could we build smaller supply dumps ashore and sustain forces from them while keeping the dumps supplied from a sea base? If so, where is the balance point?	
31. At what point should logistics transition entirely ashore?	

Questions for phase IV: Integrating power from the sea

Question	How to address
32. How are amphibious capabilities integrated into joint operations?	
33. How are amphibious capabilities integrated into combined operations?	
34. How are other Service capabilities integrated into amphibious operations?	
35. How are other nations' capabilities integrated into amphibious operations?	

FUNDING FOR NEW STARTS

Mr. DICKS. Provide for the record a list of all new starts (funding provided in FY 1995, but not in FY 1994) the procurement and R&D budget of the Marine Corps. Are there any new starts?

General BRABHAM. I will have to research that for the record because if there are, they are very insignificant.

Mr. DICKS. Okay. Thank you very much.

[The information follows:]

There are no R&D new starts in the FY 1995 budget. The new programs in the procurement budget for FY 1995 are as follows:

P-1—Nomenclature:	*Amount*
57—Joint Service Imagery Processing System (JSIPS)	28.8
58—Meteorological Systems	6.5
59—Intelligence Support Equipment (Trojan Special Purpose Integrated Remote Intelligence Terminal)	10.2

Mr. MURTHA. We have our Iron Mike award winner of 1994, Mr. Young.

Mr. YOUNG. You were 1993. General, it is nice to have you here.

Mr. MURTHA. Before Mr. Young begins, we are going to lose one of our legislative fellows today who has done such a great job for the Marine Corps—Colonel Randy West. Ms. Sandy Gilbert, a staff assistant who has worked so hard for the Committee, is retiring. We are having a ceremony for her.

Mr. Young.

Mr. YOUNG. Thank you, Mr. Chairman.

I have to say, General, that Colonel West has made a tremendous contribution to the work of this subcommittee and to the work of this Member of the subcommittee, and I think the Marine Corps has done very well, probably a lot better than it would have in the last couple of years because Colonel West has been a part of this activity. But now he is coming back to the corps.

We will miss him professionally and personally. General, I have several questions that I would like to submit for the record, but I would like to talk to you about ATARS for a few minutes.

Where do we stand with ATARS?

ATARS PROGRAM

General BRABHAM. Sir, the ATARS program is not one that I manage since it is an aviation-borne platform, carried on an aviation platform. I would like to give you a detailed answer for the record from the folks that handle our aviation platform.

We have a requirement for ATARS capability. I just don't know exactly where they are in that program.

Mr. YOUNG. Last year that was a big item because the initial intent was that ATARS was to be canceled and had it not been for the Marines being willing to test the system on platforms the Marine Corps already owned, the system probably would have been dead. And it brings a capability to all of us, not just the Corps. You have addressed the requirement for lifting Marines from over the horizon and discussed the V-22 and the LCAC but there appears to be a deficiency when it comes to high-speed forcible entry amphibians. What are we doing there?

General BRABHAM. I would like to expand that deficiency a little more, if I may. The Marines have a requirement just like the other forces for a lightly armored mobility capability for their forces on the battlefield. In the case of the Marines, of course, that same capability has to proceed from sea and then execute on the battlefield far inland. So it is a different capability and it is a requirement for land mobility for our infantry forces.

It has to come from the sea. The current capability is filled by an amphibious vehicle called the LVTP7, which is about 20 years old. It has several deficiencies, deficiencies in land mobility. It cannot keep up with the M1 tank. It is too old and it is very, very slow in the water, 6 to 8 knots. So we are attempting to address the entire spectrum of that mobility with a single vehicle like we have in the past.

It has requirements to have good fire power and mobility on land and the requirement to be able to be operationally effective with the ranges and speeds that we bring with the LCAC and V–22 aircraft.

Our answer is the Advanced Assault Amphibian Vehicle (AAAV). That program has been in R&D for a number of years. It is approaching the state where we are ready to go to Milestone I with the DOD to initiate the program and to go into evaluation of effectiveness and engineering development.

We are proceeding toward a Milestone I that is currently on our target for June of this year.

Mr. YOUNG. Well, General, thank you very much. I do have the other questions in writing and I will submit them and if you will respond for the record, I would appreciate that very much.

It is good to have you here. Thank you, Mr. Chairman.

(CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:)

PROCUREMENT, MARINE CORPS BUDGET

Question. I notice in your budget that the total amount requested in your submit for Procurement, Marine Corps is $554.6 million. I understand that this is down from $1 billion 297 million appropriated in 1989. I know that all the Services have taken reductions, but this is down about 60-percent and seems a little out of proportion to me. Isn't this a heavier cut than most other accounts have suffered?

Answer. We consider the FY 1995 budget a bare minimum for our investment account. At present levels, we cannot modernize our weapons systems except in selected areas such as night vision equipment and single channel ground-air radio systems. The FY 1995 budget also requires us to stretch out programs over extended periods of time and to stress product improvements of older systems to meet the current threat. While we remain ready at the present time, current levels cannot be sustained indefinitely.

MARINE CORPS RESERVE EQUIPMENT

Question. I thought that was the case, in fact, it was this Committee that insisted on adding $50 million for miscellaneous equipment for the Marine Reserves as a means of augmenting your PMC appropriations. How important were these funds and have you decided how to allocate them?

Answer. The $50 million allocated to the Marine Corps Reserve will greatly enhance the readiness posture of the Total Force Marine Corps by improving training and communication capabilities within the Reserve Component. The following list of items will be procured with this funding:

RESERVE INFORMATION NETWORK (R–NET)—R–NET is state-of-the-art technology with capabilities for multi-unit simulated tactical training, video tele-training for multi-unit simulated tactical training, video tele-training/conferencing, and multi-media training, significantly enhancing training capabilities among the 191 widely dispersed sites of the Marine Corps Reserve. R–NET will provide a communication link within the Total Force Marine Corps to open the Reserve Component to electronic exchange of documents, forms, graphics, and images, thereby decreasing the dependency on mainframe access, with significant cost savings.

INFANTRY SQUAD TRAINER (IST)—The IST is a 12–15 man simulator training device capable of using all weapons organic to an infantry unit. The trainer provides integrated and fields of fire marksmenship training for squad size units.

INDOOR SIMULATED MARKSMANSHIP TRAINER (ISMT)—The ISMT system will effectively enable the Reserve units to maintain marksmanship proficiency without transportation to ranges or expending live ammunition. The ISMTs are capable of training four Marines simultaneously and are fitted with the following weapon systems: M16A2 rifle, AT–4 anti-tank missile, squad auto weapon, M9 pistol, night vision device capable, MK–19, M–2, M–240G, MP5, SMAW, M–870, and M203 grenade launcher.

NIGHT TARGETING SYSTEM (NTS) AH–1W COBRA—The NTS upgrades night warfighting capability to existing Marine Reserve AH–1W helicopters and mirrors and AH–1W Cobra helicopters planned for procurement by the Reserve Component will include the NTS.

AMMUNITION PROGRAM

Question. I note that about ¼ of the PMC request is for ammunition. I understand that during the last 10 years we had built up some surplus ammunition stocks. Could you tell us how these surpluses have been eroded by the Defense cuts of the last 5 years?

Answer. Recent guidance changes, resulting from resource constraints limited the Marine Corps' procurements to 45 days of war reserve plus annual training requirements. Consequently, assets with an inventory over 45 days were not funded until training consumption brought the inventory to that level. The ability to train using excess stock will only be possible through FY 1996.

ADVANCED AMPHIBIOUS ASSAULT VEHICLE (AAAV)

Question. In order to execute forcible amphibious operations in the future, the Marines have stated that "maneuver from the sea" is an essential concept. You have addressed the requirement for lifting Marines from over the horizon with the V–22 and the LCAC, but appear to be deficient when it comes to a high-speed forcible entry amphibian. Has the Navy-Marine Corps team agreed on the operational necessity to field the AAAV you discussed in your prepared statement?

Answer. The Department of Navy's recognition of the operational necessity to field the AAAV has been most recently articulated in the DoN 1994 posture statement entitled "Revolutionizing Our Naval Forces." Starting with Secretary Dalton's preface to the annual posture statement and continuing through the section addressing Joint Littoral Warfare, the AAAV is recognized as "* * * a critical component of future naval power projection," and that "* * * the AAAV will provide the Marine Corps with one of the most versatile, capable weapon systems in the world, and will materially enhance the Naval Services' ability to project decisive combat power ashore." In addition, The Joint Requirements Oversight Council (JROC), chaired by the Vice Chairman of the Joint Chiefs of Staff, has validated the requirement for the AAAV program.

Question. Have the necessary funds been identified and allocated to execute this program?

Answer. As required by the DoD acquisition process, the Department of Navy must show full funding of the AAAV program before approval is given to proceed beyond Milestone I. Now that a detailed cost estimate for AAAV has been completed, adjustments are being made to match the projected program requirements.

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

Mr. MURTHA. General, we will do the best we can. We notice you only get what is left over from all these other services, and you have a tough time making it with the money we make available. The Committee understands the tremendous job that you folks do and we realize how dangerous being in the military is today even in peacetime.

I was talking to General Shalikashvili this morning about the Korean situation. CIA briefed for an hour and 15 minutes to people on the Intelligence Committee and ourselves about the situation there. It is a very tenuous situation and we are concerned about it. We applaud the work you have been doing in supporting the troops in the field. You are an integral part of the combat forces and we applaud you for your efforts. We know the families have been suffering greatly not so much from loss of life—we have had some of that—but because deployments have been so long and so continuous. You were telling us that people who came back from Desert Storm were deployed first and the last ones to come home were deployed a few days later——

General BRABHAM. Less than 30.

Mr. MURTHA. Thirty days later they go to Iraq. It is a tremendous strain on the family life of the people in the service. We have tried to fund it. I am disappointed that the Senate is having such a problem in getting adequate money for the military. We think it is short here, so we know it is going to be short in the Senate.

Thank you, General Brabham. There will be additional questions for the record. The Committee is adjourned until 1:30 p.m. this afternoon.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow.]

FUTURE MARINE CORPS EQUIPMENT NEEDS

Question. According to a recent article in Defense News, the Marine Corps has launched a study, called "Project Culebra", to "determine what weapons systems and changes in doctrine and training are required to meet future needs." Is this report true?

Answer. Yes. This study was initiated on 30 July 1993.

Question. Who is conducting this study and when will it be completed?

Answer. The study is being conducted by the Center for Naval Analyses and managed by Marine Corps Combat Development Command. The study is scheduled to be completed in July 1995.

Question. Can you report any preliminary findings or recommendations from the study at this time?

Answer. The preliminary findings of the study to date: Defined Operational Maneuver from the Sea (OMFTS) terminology; Provided no hard and fast answers but started to identify "out of the box" thinking needed in Project CULEBRA.

The study also focused on: Long-distance version of "pile on the beach"; maneuvering to avoid contact with the enemy.

PROCUREMENT FUNDING LEVEL

Question. Last year you stated that the minimum sustainable procurement funding level for the Marine Corps would be determined after the "Bottom-Up Review." What have you determined that level to be?

Answer. The Marine Corps has determined this funding level to be $1.2 billion.

Question. How does your current estimate of the minimum sustainable procurement funding level compare to the funding levels currently in the Marine Corps long range budget for each year?

Answer. The current long range budget for each year is:

[$000]

Fiscal year—			
1996	1997	1998	1999
$615,568	$606,642	$820,723	$1,152,854

Question. In the overall Marine Corps budget for fiscal year 1995—all appropriations—what are the most serious funding shortfalls?

Answer. The most serious shortfalls, in priority order, for FY 1995 are:

[In millions of dollars]

		Amount
Operation and maintenance:		
Readiness:		$163.3
Quality of life programs	$22.6	
Operating forces	$62.0	
Depot maintenance	$57.0	
Formal schools training	$21.7	
Procurement, Marine Corps:		
SINCGARS		$10.0
Reseach, development, test and evaluation, Navy:		
MV–22		$72.3

[In millions of dollars]

		Amount
Advanced amphibious assault vehicle	....	$10.0
Family housing, Navy:		
Operations and maintenance	....	$25.0
Total	....	$280.6

Question. What specific items of equipment would the Marine Corps procure if additional procurement funding resources were provided? Provide for the record the items, quantities, and costs.

Answer. If additional procurement funding resources were provided, the Marine Corps would procure the following items:

Nomenclature	Quantity	Amount
SINCGARS	Various	$10.0
Night vision goggles	3,100	10.0
AVENGER	20	24.0
LAV thermal sights	89	7.0
LAV mobility enhancement	Various	24.0
Indoor simulated marksmanship trainer	100	25.0
Dragon mod	....	10.0
Ammunition	....	150.0
M1A1 tank transfer	....	4.0
Total	....	264.0

LIGHTWEIGHT 155 TOWED HOWITZER

Question. In fiscal year 1993, Congress appropriated $13 million for the Marine Corps to test and evaluate a lightweight 155mm howitzer. Last year's conference report directed that no more than fifty percent of these funds be obligated until a Joint Operational Requirement Document (JORD), involving the Army and the Marine Corps, was signed. What is the status of a lightweight 155mm howitzer JORD?

Answer. A Memorandum of agreement (MOA) between the US Army and Marine Corps was signed to jointly develop a lightweight 155mm howitzer to replace both service's M198 howitzer. Harmonization and subsequent approval of the JORD is anticipated late FY 1995 based on ongoing and planned program activities which include testing of existing prototype weapons before finalization of the JORD.

Question. Why is it taking so long to get a Joint Operational Requirement Document (JORD)? What are the outstanding issues between the Army and the Marine Corps for this program?

Answer. Prior to the Memorandum of Agreement (MOA), the main issue revolved around the differences in the weapon employment creating unreconcilable differences in both physical and performance specifications. The MOA resolved previous issues, providing definite program direction.

Question. Why does the Marine Corps need a new 155mm howitzer when the M198 was fielded not that long ago? What are the deficiencies of that system?

Answer. The M198 howitzer was fielded in the Marine Corps beginning in 1980. It was fielded to replace the M101A1, 105mm howitzer, which had been in our inventory since the late 1930's. The M198 howitzer provided tremendous enhancements to range and lethality over the M101A1 howitzer and an operational capability for defeating opposing threat forces through the end of the twentieth century. Unfortunately, during initial deployment of the M198 howitzer, mobility problems (ground and air assault) were experienced by Marine forces resulting in retention of a portion of the M101A1 howitzers as contingency backup. The M101A1 howitzers' service life has expired with virtually no long-term support available.

During the last two years, the M198 howitzer has begun to experience readiness problems due to metal fatigue and structural failure. Escalating repair costs, expensive corrective component redesign and repair turn-around times are beginning to take a toll on field units, and Marine artillery's ability to furnish required fire support. Although existing problems with the M198 are being corrected, the frequency and magnitude of repairs are clear indications of a rapidly approaching service exit date and the need for a long-term solution. The lightweight 155mm howitzer will accomplish this as well as satisfy the operational deficiencies of its predecessor.

Question. Provide a brief comparison which summarizes the joint performance and technical requirements for the new howitzer and the M198 howitzer.

Answer. Lightweight 155mm howitzer performance is equal to or greater than the M198 howitzer. It will weigh less than 9,000 lbs. as compared to the M198 howitzer weight of over 15,000 lbs. It is capable of firing the entire family of current and future 155mm ammunition and offers significant ground and air mobility enhancement over the M198 howitzer due to its light weight.

Question. What is the Marine Corps long range plan or "roadmap" for howitzers in the force structure?

Answer. The Marine Corps near and long range plans are for a single caliber, 155mm towed howitzer. Future operational enhancements in the areas of range and lethality are expected to meet the evolving threats.

Question. What specific tasks does the Marine Corps expect to accomplish with the $6.5 million now available for this program?

Answer. The tasks are as follows:

a. Joint Operational Requirements Document (JORD) development (modeling and analysis) will be conducted to define measures of effectiveness with trade-off studies. Prototypes of the two systems will be evaluated.

b. Both candidate prototypes will be safety certified and tested. A follow-on test plan will be developed.

c. Component technology will be tested and evaluated for the cannon, fire control systems, and powered elevation and traverse.

d. The M198 howitzer service life will be evaluated to include metallurgical failure testing and reliability, availability, maintainability and dependability.

Question. Describe the relative roles of the Marine Corps and the Army in the management and financial support of this program.

Answer. The Army will be the Milestone Decision Authority (MDA) and take the lead defining and harmonizing the detailed requirements during a concept exploration phase. The Marine Corps will support the industry study effort, based on the operational objectives, mission performance characteristics, and initial life cycle cost estimate factors to identify all plausible material alternatives which may satisfy the government requirement and recommend potential solutions. The Army and Marine Corps currently have no Lightweight 155mm howitzer in their budget. Program resource requirements will be requested in the FY 1996 budget.

Question. Does lack of Army funding support conflict with Marine Corps needs and priorities?

Answer. The Marine Corps has an extremely high priority for this program due primarily to the rapid degradation of the M198 howitzer within our forces. the Marine Corps relies on the M198 howitzer to meet all artillery assigned missions, with heavy emphasis on the direct support role (most demanding). The Army has not yet experienced, to the degree of the Marine Corps, M198 howitzer readiness problems because their field units are normally assigned a general support mission (less demanding role). Additionally, the Army has a rather large arsenal of artillery weapons to rely upon, i.e., M119 howitzer, M198 howitzer, M109A5 howitzer, High Mobility Artillery Rocket System (HIMARS) and Multiple Launch Rocket System (MLRS), thus lessening its criticality to the overall artillery support.

In light of this austere fiscal environment, the Marine Corps needs the Army as a joint partner to share program expenses and ensure economical quantities for procurement. The Army has a long history of artillery systems development, fielding, and sustainment. this will make them invaluable as the lead service.

Question. Do you recommend any changes in this program to better serve your needs and priorities?

Answer. No. The planned activities for this program are taking full advantage of existing prototypes and technology in an effort to streamline lightweight 155mm howitzer development and field a timely capability both efficiently and effectively. Near term efforts will head to a harmonizing of the joint service requirement, ensuring Marine Corps needs are both addressed and met.

Question. What would be a logical R&D funding profile for the remainder of this program? What development, contract, testing, and decisions milestones would be associated with such a program?

Answer. Assuming the maturity of the prototypes are as advertised by industry, i.e., pre-production ready, the program should promote accelerated development. It is quite possible to enter directly into engineering and manufacturing development (EMD) once the requirement is defined.

FUNDING PROFILE

[In millions of dollars]

	Fiscal year—						
	1994	1995	1996	1997	1998	1999	2000
RDT&E	6.5		15.0	12.0	10.0		
To complete							
Total							43.5

There is currently a $9.5 million RDT7E shortfall in FY95.

Milestone schedule	
Combine Phase 0 1	2nd qtr FY 1994—3rd qtr FY 1995.
Prototype Testing	3rd qtr FY 1994—2nd qtr FY 1995.
ORD Approval	3rd qtr FY 1995.
Acquisition Strategy Approval	3rd qtr FY 1995.
Shoot-Off	3–4th qtr FY 1995.
Milestone I/II	1st qtr FY 1996.
EMD Phase	1st qtr FY 1996—4th qtr FY 1998.
Manufacturing Planning	FY 1996.
LRIP	FY 1997–FY 1998.
IOTE	3–4th qtr FY 1998.
Milestone III	4th qtr FY 1998.
Production Fielding	FY 1999–FY2002.
IOC	FY 1999–FY 2002.

Question. What would be the total procurement quantity and cost to satisfy the Marine Corps requirements for a lightweight 155mm howitzer?

Answer. The funding requirement is as follows:

[In millions of dollars]

	Fiscal year—							
	1995	1996	1997	1998	1999	2000	To complete	Total
PMC			25.5	1.5	126.0	127.0	267.5	547.5
QTY	0	0	7	0	120	120	251	498

Question. What would be the acquisition strategy and manufacturing plan for such a program?

Answer. The acquisition strategy has not been developed or approved to date. This is normally accomplished at Milestone I with the Milestone Decision Authority (MDA) of the lead service (US Army) being the approving authority. It is anticipated that the strategy will take advantage of existing prototypes provided they meet (or have the potential for meeting) the pending Joint Operational Requirements Document (JORD). Should either prototype technologically support program acceleration, it may be possible to reduce program cost and schedule by proceeding directly into engineering and manufacturing development (EMD) without undergoing a demonstration/validation phase. Competition for the subsequent production phase will have to be assured by either "leader/follower" or other teaming efforts for EMD.

SHORT RANGE ANTITANK WEAPON (SRAW)

Question. The budget includes $8,420,000 for continued development of the Short Range Antitank Weapon (SRAW). What is the status of this program?

Answer. The SRAW program will reach a Milestone II in third quarter FY 1994 and will reach a critical design review in fourth quarter FY 1995.

Question. FY 1994 funding of $21.1 million was based on a Milestone II decision occurring last September and a full year of engineering and manufacturing development (EMD) in FY 1994. Since the Milestone II decision has now slipped by at least six months, by how much is your 1994 appropriation in excess to your current requirements?

Answer. None of the FY 1994 program funding is in excess since the majority of the funding is for contract awards with long lead materials which will occur prior to the end of the fiscal year.

Question. What has caused the delay in the Milestone II decision and what is the current schedule?

Answer. The delay is due, in part, to a re-validation of the Heavy, Medium, Light Anti-armor Weapon concept and the development of an affordable funding profile for the FY 1996 budget. As a follow-on to the revalidation study, the Marine Corps analyzed and developed a reduced mix of medium and light systems that is operationally sound and fiscally affordable. The Short Range Antitank Weapon (SRAW) program is successfully progressing through the FY 1996 budget approval process with the Milestone II decision timed to correspond with the service approval of the FY 1996 budget. The Milestone II is currently scheduled for May 1994.

Question. What are the current development, testing, and contracting milestones for the remainder of the program?

Answer. The milestone schedule is:

Milestone II	3rd qtr FY 1994.
Contract Award	3rd qtr FY 1994.
Preliminary Design Review	4th qtr FY 1994.
Build Engineering Design Models	1st qtr FY 1995–96.
Engineering Design Model Test Flights	2nd qtr FY 1995.
Critical Design Review	4th qtr FY 1995.
Build Developmental Text Models	1st qtr FY 1996–97.
Developmental Testing	2nd qtr FY 1996–97.
Production Readiness Review	2nd qtr FY 1997.
Build Operational Test Models	3rd qtr FY 1997.
Operational Testing	4th qtr FY 1997.
Milestone III	1st qtr FY 1998.
Limited Production	1st qtr FY 1999–2001.
Full & Open Competition	FY 2000.
Initial Operational Capability	4th qtr FY 2000.
Full Scale Production	FY 2001–FY 2003.
Full Operational Capability	4th qtr FY 2003.

Question. You stated last year that the development cost of this program after FY 1994 was $59 million. Why has this estimate now climbed by 12% to $68.3 million?

Answer. The $59 million was based on the earlier estimate of a three year engineering and manufacturing development (EMD). A four year EMD at a cost of $68.3 million was later adopted to ensure full maturity and integration of the technology.

Question. Describe the current engineering and manufacturing development (EMD) strategy for SRAW and explain why it was chosen.

Answer. The current strategy calls for design of the system through FY 1995 with a critical design review (CDR) at the end of FY 1995. Developmental testing and operational testing would occur during FY 1996–97 and production readiness testing during FY 1998. Production would begin in FY 1999.

Question. What alternative engineering and manufacturing development (EMD) strategies were considered and why were they rejected?

Answer. An alternative strategy speeds the design of the system (with little to no risk) and reaches critical design review (CDR) earlier in FY 1995. This program results in production a year earlier in FY 1998. The RDT&E,N funding shortfall of $22.0 million in FY 1995 precludes this strategy.

Question. Authorization conference report language last year required that the "Marine Corps fully fund and proceed with the three year engineering and manufacturing system development for the antitank version of the Short Range Antitank Weapon (SRAW) system." Is the FY 1995 budget compliant with this direction? If not, how is it deficient and why?

Answer. The Marine Corps has insufficient total RDT&E,N funding to unilaterally comply with the Congressionally directed three year engineering and manufacturing development schedule. A 3.5 year engineering and manufacturing schedule is attainable with an additional $22.0 million in FY 1995.

Question. In response to another requirement of FY 1994 authorization conference report language, the Army has stated that it has no requirement for a short-range antitank (as opposed to an antiarmor) weapon. Why are the Army and Marine Corps requirements different in this regard?

Answer. While the Army accepts the Heavy, Medium, Light Antiarmor Weapon system concept, it has a higher density of heavy and medium systems than the Marine Corps and can defeat more tanks at the longer ranges. Therefore, its requirement for a light system addresses light armored vehicles and bunkers (for which it currently has no weapon). The Marine Corps currently has a bunker defeat capability with its Shoulder-Launched Multipurpose Assault Weapon (SMAW). Because the Marine Corps can not afford a higher density of heavy and medium systems, it must rely on light systems to defeat main battle tanks.

Question. Short Range Antitank Weapon (SRAW) has been advertised as a $5000 weapon. According to your current best estimates (documentation for the Milestone II review), what is the total procurement quantity and cost for SRAW and what is the resultant procurement unit cost (in then year dollars)? Why does this vary from $5000?

Answer. The total procurement quantity by the Marine Corps was recently reduced from 50,061 to 21,012 based on a reduced force structure, the concept of employment, and cost. The total procurement cost estimate is $271 million in FY 1993 dollars ($323 million then year dollars). This computes to an average unit cost of $12,000 in FY 1993 dollars ($15,000 then year dollars). The $5,000 figure was a current year estimate in FY 1990 and was based on a larger procurement quantity. The 21,012 quantity is Marine Corps procurement only and does not include US Army quantities of SRAW/Multi-Purpose Individual Munitions (MPIM) or foreign sales which have yet to be determined. These potential additional procurement quantities will lower the unit cost.

Question. What role, financial or otherwise, is the Army currently playing in the Short Range Antitank Weapon (SRAW) program?

Answer. The Army currently has no direct role, although, a joint USMC/USA SRAW/Multi-Purpose Individual Munitions (MPIM) program is under development and the publication of a joint Memorandum of Agreement (MOA) is being held until the Milestone II decision is made by the Marine Corps. Under this plan, the Marine Corps would develop the antitank warhead; the Army would develop MPIM warhead, and both would contribute to the delivery vehicle. The Army currently attends all program and design reviews.

Question. What is the current Marine Corps role, financial or otherwise, in the Army Multi-Purpose Individual Munitions (MPIM) program?

Answer. The Marine Corps currently has no direct role. Refer to the previous answer for the future plan.

Question. Why are both Multi-Purpose Individual Munitions (MPIM) and Short Range Antitank Weapon (SRAW) necessary?

Answer. MPIM meets the Army's requirement for an anti-armor weapon effective against light armor and bunkers. SRAW meets the Marine Corps' requirement for a light anti-tank weapon effective against main battle tanks.

Question. Why should the Marine Corps not be satisfied with the Multi-Purpose Individual Munitions (MPIM) which provides both an anti-armor and a bunkerbuster capability?

Answer. It does not meet the requirement to defeat main battle tanks and it duplicates an existing capability in the Shoulder-Launched Multipurpose Assault Weapon (SMAW) bunkerbuster.

Question. The Marine Corps is also buying the Shoulder-Launched Multipurpose Assault Weapon (SMAW) High Explosive Anti-Armor (HEAA) ammunition for the short range anti-tank mission. If SRAW is intended to kill tanks at ranges the same as SMAW HEAA, then apart from its ability fire from enclosures, what additional capability is Short Range Anti-tank Weapon (SRAW) adding?

Answer. SMAW HEAA will not kill the modern main battle tanks with explosive reactive armor, while SRAW will. The probability of hit of the SRAW as a guided missile with its inertial autopilot is much higher than the unguided SMAW HEAA.

Question. For the record, provide the technical and performance requirements for Short Range Antitank Weapon (SRAW) (objective and threshold) and then show what (if anything) has been demonstrated in testing to date.

Answer.

PREDATOR REQUIREMENTS TABLE

Requirements	Threshold	Objective	Demonstrated
Range	17–600 meters	Same	Exceeded minimum & maximum thresholds during Dem/Val.
Prob. of hit (tank target)	Stationary 0.5 @ 600 meters. Moving: 0.5 @ 200 meters	0.8 @ 600 meters 0.5 @ 250 meters	[1] Stationary: exceeded threshold. [1] Moving: exceeded objectives.
Target defeat capability	T80U with reactive armor.	Same	Demonstrated statistically in all-up missile flights.
Weight	20 pounds	15 pounds	Tactical estimate 19.04 pounds based on calculations and actual weights.
Length	40 inches	36 inches	Tactical length estimate 36 inches.

PREDATOR REQUIREMENTS TABLE—Continued

Requirements	Threshold	Objective	Demonstrated
Soft launch	MIL–STD–1474B	Same	Demonstrated soft launch concept and sound level in open air below Y-curve in MIL–STD–1474B.

[1] Based on demonstrated accuracy shots at 500 meters.

ADVANCED AMPHIBIOUS ASSAULT VEHICLE (AAAV)

Question. The budget includes $24.6 million for continued development of the Advanced Amphibious Assault Vehicle, a replacement for the LVT7A1 amphibious tracked combat vehicle. Last year, we were told that a Milestone I review of this program, leading to the demonstration/validation phase, would take place before the end of March, 1994. Has this milestone been delayed? If so, why?

Answer. Our estimate of a review date for the program a year ago was March. Last fall a variety of program streamlining initiatives were evaluated which delayed final program documentation preparation by about two months. Our current plan is to schedule a Marine Corps Program Decision Meeting (MCPDM) with the Assistant Secretary of the Navy for Research, Development, and Acquisition (RDA) in late May or early June, 1994.

Question. When is Milestone I currently scheduled to occur and who will conduct the review?

Answer. See answer to previous question. After the Marine Corps Program Decision Meeting (MCPDM), the normal sequence of events is a Conventional Systems Committee (CSC) review several weeks after the MCPDM followed by the Defense Acquisition Board (DAB). The CSC review is chaired by the Office of the Under Secretary of Defense for Acquisition Director of Tactical Systems, and the DAB is chaired by the Under Secretary of Defense for Acquisition.

Question. What will be decided at the Milestone I review? What are the issues and alternatives?

Answer. The main purpose of the review is to determine if the results of the concept exploration phase warrant establishing a new acquisition program (e.g., grant permission for the program to proceed into demonstration validation) and to establish a concept baseline containing the program cost, schedule, and performance objectives for the demonstration/validation phase. Due to a very comprehensive and successful concept exploration phase, there are believed to be no substantive issues at this time. The Marine Corps will present its preferred alternative, the Advanced Amphibious Assault Vehicle, for approval to the decision authority.

Question. A program to replace the LVT–7 has been on going since the early 1970's and yet we are still in "concept development." What is the problem?

Answer. The late 1970's saw the cancellation of the Landing Vehicle Assault (LVA) program, the Marine Corps' first attempt at replacing the LVT–7. This cancellation was due to our recognition of the exceptionally high technical risks and associated costs caused by the nonexistence of the technology base to support such a program. During the 1980's a very modestly funded technology base program was established by the Marine Corps for the first time. It resulted in the successful demonstration in the late 1980's and early 1990's of a variety of critical systems and subsystems that conclusively proved the technical feasibility of high speed amphibians. First year funding for AAAV was FY 1990 to begin to transform feasible technologies into a producible combat vehicle. Again we concentrated on reducing risk to ensure that future costs would not exceed our affordability limits. Our deliberate pace since the 1970's is the result of resource constraints and a purposely deliberate development philosophy, to contain risk and future costs.

Question. What are the current milestones for completion of development and testing for the AAA?

Answer. The following is our proposed development and testing schedule subject to review during the Milestone I process:

	Fiscal year
Milestone I	1994
Demonstration/Validation Contract Award	1995
Developmental Testing I (DT I)	1998
Operational Testing I (OT I)	1999
Milestone II	1999
Developmental Testing II (DT II)	2002
Live Fire Testing	2003
Initial Operational Test & Evaluation (OT II)	2004

Question. What has this program cost to date and what will it cost to complete development and testing (in then year dollars)?

Answer. Beginning in FY 1990, the total research and development (R&D) program costs to date, including all of FY 1994, are $99.1 million. The current estimate of escalated R&D costs for FY 1995 to program completion, based on our proposed development strategy and schedule, is $661 million.

Question. What is the current estimate of procurement quantity and cost (in then year dollars) and when is the first procurement contract to be awarded?

Answer. Our current estimate of procurement quantities for AAAV is 1013 vehicles which includes both infantry carriers and command & control vehicles. Our current estimate of all escalated procurement dollar costs that include facilitization of plant and equipment, Low Rate Initial Production (LRIP), 1013 vehicles, government furnished equipment (GFE), initial spares, training equipment, program office support, engineering change orders, support equipment, and data is $5.8 billion. The LRIP contract award is currently planned for FY 2000.

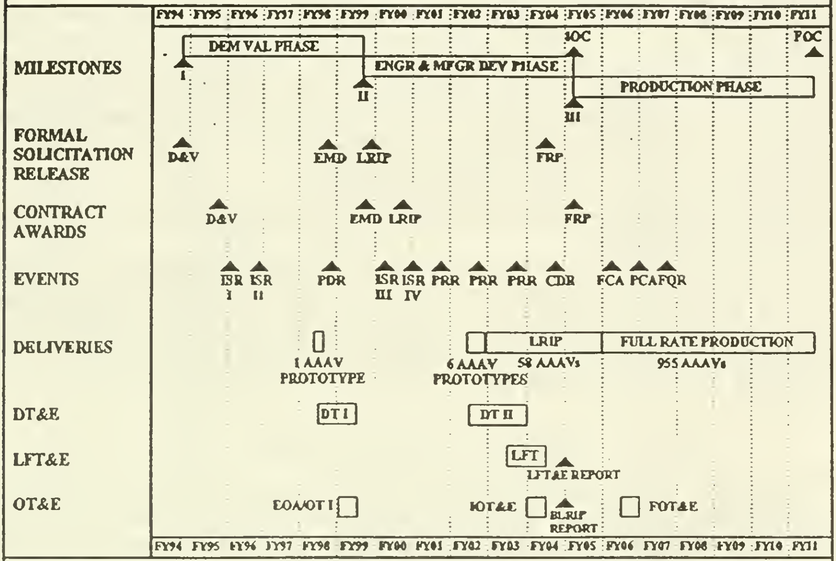
Question. What specific activities are planned in FY 1994 and FY 1995 in this program?

Answer. For FY 1994, the plan is to continue valuable technical risk-reducing activities. These activities include the fabrication of automotive test rigs and operational weapon station mock-ups, armor testing, hydrodynamic propulsor testing, and investment in the maturation of candidate engine technologies. In FY 1995, the program plans include the testing of the automotive test rigs, testing of the operational weapons stations, power-proof testing of candidate engines, and the competitive award of the demonstration validation contract. The demonstration validation phase contractor will initiate fabrication of a full-scale prototype AAAV in FY 1995.

Question. What is the overall acquisition strategy for this program?

Answer. [The information follows:]

PROGRAM STRUCTURE - ADVANCED AMPHIBIOUS ASSAULT VEHICLE



IOC - Initial Operational Capability
FOC - Final Operational Capability
D&V - Demonstration & Validation
EMD - Engineering & Manufacturing Development
LRIP - Low Rate Initial Production
FRP - Full Rate Production
ISR - Interim Systems Review

PDR - Preliminary Design Review
PRR - Production Readiness Review
CDR - Critical Design Review
FCA - Functional Configuration Audit
PCA - Physical Configuration Audit
FQR - Formal Qualification Review
DT&E - Developmental Test & Evaluation

LFT&E - Live Fire Test & Evaluation
EOA - Early Operational Assessment
OT&E - Operational Test & Evaluation
BLRIP - Beyond LRIP
FOT&E - Final Operational Test & Evaluation

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Question. What are the risks in proceeding with only one prime contractor at this phase of the program?

Answer. The technical risks to the AAAV associated with proceeding with only one contractor are negligible due to the maturity of our successful concept exploration phase, technical risk-reducing activities, and the unique knowledge base that the government has acquired over these years. There is some potential cost risk involved in removing competition beyond the next development phase. The program intends to mitigate this risk by requiring competition below the prime contractor level.

Question. What would it cost in FY 1995 and beyond to continue with the current two prime contractors through demonstration/validation (DEMVAL)?

Answer. An estimated additional $10 million would be required in FY 1995. An estimated additional $187 million would be required beyond FY 1995 until completion of the demonstration validation phase. These costs are escalated and include additional government costs associated with carrying a second contractor.

MEDIUM TACTICAL TRUCKS

Question. While it would seem that Marine Corps and Army tactical truck performance requirements ought to be the same, the Marine Corps has a history of taking an independent course in the procurement of tactical trucks. For example:

Instead of joining the Army in the procurement of the HEMTT heavy truck, the Marine Corps bought a different truck called the LVS for its heavy truck.

Instead of buying the Army's M939A1 or M939A2 medium truck, the Marine corps had an independent service life extension program for its older trucks.

The Marines are considering a Marine Corps-unique light strike vehicle and a Marine Corps-unique expeditionary vehicle.

The Marine Corps is proposing to start a major remanufacturing program for medium trucks rather than procure the new Army/Air Force FMTV.

Why does the Marine Corps seem to be incapable of buying the same trucks that others buy?

Answer. The Marine Corps and the Army program executive office (PEO) funded an analysis of the family of medium tactical vehicle's (FMTV's) ability to support the Marine Corps mission and needs. The Army study determined that the FMTV could not be modified to meet our medium fleet requirements.

The Marine Corps tactical wheeled vehicle fleet is in many ways very similar to what others buy to include the U.S. Army. The Marine Corps possesses over 18,000 High Mobility Multipurpose Wheeled Vehicles (HMMWV) and 8,300 medium trucks of the M809/M939 series. These are our largest quantity fleets, and are the same vehicles the U.S. Army possesses. Additionally, we maintain thousands of the same trailers and support items of equipment as the Army does. We do have 1,650 Logistics Vehicle Systems (LVS) vice the Heavy Expanded Mobility Tactical Truck (HEMTT) the Army has. The LVS is an articulated vehicle with a detachable front power unit/trailer so that it can be easily loaded aboard ship and lifted by helicopter. Both LVS' and HEMTTs were manufactured by the Oshkosh Truck Corporation and share many of the same components. With the exception of the LVS, the Marine Corps has been and is capable of buying what others buy wherever and whenever it makes sense both economically and operationally.

Question. Last year, Congress deleted $6.1 million in R&D funding for the medium truck remanufacturing program, leaving $500 thousand for Marine Corps participation in Department of Defense tactical wheeled vehicle programs. Yet a solicitation was just issued for a medium truck remanufacturing program. Why is Congressional direction apparently being ignored?

Answer. In compliance with Congressional direction, the Marine Corps and the Army program executive office (PEO) funded an analysis of the family of medium tactical vehicle's (FMTV's) ability to support the Marine Corps mission and needs. The Army study determined that the FMTV could not be modified to meet our medium fleet requirements. Accordingly, the Marine Corps has continued to actively seek ways to satisfy Congressional desires by working closely with the Army PEO, the Army Guard and the Army Reserve. The solicitation is a market survey by the Army PEO for a joint Army/USMC medium truck remanufacture program.

Question. How much is included in the FY 1995 budget for the remanufacturing program and for what purpose?

Answer. $1.5 million is included in the RDT&E,N budget for a Medium Tactical Vehicle Replacement (MTVR) program. Funding will be used to complete durability testing on two advanced technology transition demonstrator truck (proof of concept) vehicles, conduct early operational assessment with these two vehicles, and provide the U.S. Army program executive office (PEO) Tactical Wheeled Vehicles funding for Medium Tactical Vehicle Replacement program support.

Question. What is the overall acquisition strategy for the remanufacturing program and what are the current milestones?

Answer. The current plan calls for the award of a production contract in FY 1997, with Initial Operational Capability (IOC) planned for FY 1999. The plan is to issue a single request for proposal (RFP) covering production requirements only. A best value selection would be based on evaluation of production proposals solicited under full and open competition.

Milestones: Milestone I/II—3rd QTR FY94; Milestone III—4th QTR FY97; IOC—2nd QTR FY99.

Question. Provide for the record the R&D and procurement profile for this program (including quantities) and indicate which funds are currently included in your five year budget.

Answer. The funding profiles below reflect funding in the current budget and the overall requirements based on the best course of action for the Marine Corps to fit with the program executive office (PEO) Tactical Wheeled Vehicles' joint truck extended service program (ESP).

[$000 FYDP]

	Fiscal year							
	1993	1994	1995	1996	1997	1998	1999	2000
RDT&E: Budgeted	1,203	358	1,545	383	297	296	194	194

[$000 FYDP]

	Fiscal year							
	1993	1994	1995	1996	1997	1998	1999	2000
PMC: Budgeted	....	....	....	....	....	9,700	70,472	....
QTY	....	....	....	....	....	96	705	....

The planned procurement profile is 7,269 vehicles at approximately $100 thousand each for a total program of $727 million in FY 1994 dollars.

Question. Why does the Marine Corps consider the family of Medium Tactical Vehicles (FMTV) to be unsatisfactory for its medium tactical truck?

Answer. The Family of Medium Tactical Vehicles is a single rated 5 ton off/on road truck while our current fleet of M809/M939 series trucks are dual rated 5 ton off-road and 10 ton on-road. The Marine Corps uses its medium fleet to both execute direct and general support missions. At least 30% of all missions require a greater than 5 ton capacity. It would require an additional 1,889 FMTV 5 ton trucks, above the current planned quantity of 7,269, to make up for this shortfall in lift capability. The FMTV compared to Marine Corps Advanced Technology Transition (MCATTD) proof of concept vehicles is less mobile, less capable (lift capacity), less durable, and more expensive. The Marine Corps cannot afford a new truck program such as the FMTV.

The Marine Corp could obtain a significantly improved truck, as compared to the current vehicles, by remanufacturing to either the MCATTD level of performance (8 ton off-road/15 ton on-road) or a M939A3 level remanufactured vehicle without independent suspension system.

The M939A3 would retain the dual payload rating (5 ton off-road and 10 ton on-road).

The FMTV may make sense for the Army since it will fit nicely into their fleets of medium (M35/M809/M939) and medium heavy fleet (HEMMT and Pallatized Loading System (PLS)). However, the FMTV is not the appropriate Marine Corps truck. The Marine Corps uses its single medium truck for multiple missions (bulk liquid, ammunition, container, shelter, cargo, personnel and construction material transportation) in both direct and general support (line haul). The Marine Corps does not have the Army's varied, multiple vehicle motor transport fleets.

Question. What testing has been conducted to support the Marine Corps remanufacturing program requirements and who conducted these tests?

Answer. Extensive acquisition phase 0 (concept exploration/definition) testing has been conducted at the U.S. Army approved Nevada Automotive Test Center (NATC). One proof of concept vehicle Marine Corps Advanced Technology Transition Demonstrator (MCATTD1)) was fabricated there in 1991 and a second proof of concept vehicle (MCATTD2) was fabricated by the Cummins Engine Corporation in 1993. Both vehicles are standard M939 series cargo trucks (M923) that have had a number of improved components integrated into them. Both vehicles have independent suspension systems. Additionally, both vehicles have increased horsepower engines, new transmissions, central tire inflation system (standard on Army M939A2 trucks), and air start systems. The approved and standard range of all DOD tactical truck tests have or will be performed on both these vehicles. During most of these tests, the U.S. Army Tank-Automotive Research and Development Center (TARDEC) had their Advanced Technology Demonstrator II (ATD II) truck running the same tests as the MCATTDs. A 20,000 mile accelerated durability testing will soon begin on both MCATTDs. MCATTD 1 has already accrued over 10,000 miles of arduous testing in 2½ years with no component failure.

Question. Has the Marine Corps ever tested the Family of Medium Tactical Vehicles (FMTV) at Aberdeen Providing Ground, or anywhere else? Do you have any plans to do so?

Answer. The Marine Corps has closely monitored the FMTV program since its inception and has received all test data, contract modifications, and program status reports. The Marine Corps has informally asked both the Army and the Steward & Stevenson Corp. for at least one FMTV medium truck for testing. The Marine Corps was notified that all trucks are/were required for Army Initial Operational Test and Evaluation (IOT&E) efforts. The Marine Corps would welcome the opportunity to evaluate an FMTV medium truck at any test facility at the earliest. opportunity.

Question. Why is the source selection for this program based on a paper competition rather than actual hardware testing? What evidence do you have to suggest that a paper competition is the appropriate approach?

Answer. By the time of contract request for proposal (RFP), there will be extensive proof of concept test result data on vehicles that are essentially production ready systems. This data will be available to all potential manufacturers. The remanufacture effort is an integration of proven up-to-date heavy truck technology into an existing system, not development of a new vehicle. This effort will duplicate the results of the Army's 2½ ton Extended Service Life Program (ESP) which produced remanufactured trucks with better reliability, availability, maintainability (RAM) than new trucks. A paper/modeling/simulation competition approach is a higher risk, but we believe that it is executable.

Question. What consideration has been given to production base implications of establishing yet another medium tactical truck program when:

Am General is already doing a service life extension program on 2½ ton trucks, Stewart and Stevenson is already manufacturing the FMTV, BMY is still manufacturing the M939A2?

How can we afford to keep four manufacturers viable?

Answer. There has been a great deal of interest and support from all tactical truck manufacturers to include both prime contractors and component suppliers. There is more than enough production base for a program of this scope and type. If anything, it seems that there should be more tactical truck programs with the potential for complying with recent DOD guidance concerning technology insertion, evolutionary improvement, and rebuild vice new vehicles. It would not be sound industrial base policy to have just one medium military truck manufacturer. The BMY Corp. has ended its production of M939A2 trucks other than perhaps a small quantity for Foreign Military Sales (FMS). The total numbers of 2½ ton trucks that A.M. General Corp will eventually service life extend could be less than what was originally envisioned.

Question. How can the Marine Corps afford a program costing about one billion dollars when its total procurement budget is about half that per year?

Answer. The Marine Corps cannot afford to buy new Family of Medium Tactical Vehicles (FMTV) at a total procurement cost of $887 million, but may be able to better afford a 5 ton truck remanufacture option that would cost between $632 million (M939A3 alternative) to $727 million (Marine Corps Advanced Technology Transition Demonstrator (MCATTD1) alternative) over a five (5) to seven (7) year or longer period. If adequate funding would not be available for either of the remanufactured options then the Marine Corps would continue with the vehicles it possesses today.

MARINE CORPS TANKS

Question. According to the force structure and missions decisions of the Bottom-up Review and the 1993 JCS Roles and Missions Study, what is the total Marine Corps requirement for main battle tanks?

Answer. The Marine Corps' total requirement for the main battle tank is 443.

Question. How many M1A1 tanks does the Marine Corps have in its inventory today?

Answer. The Marine Corps has 221 M1A1 Tanks currently in inventory. An additional 50 tanks, transferred from the Army, will arrive in April 1994 bringing the inventory up to 271 M1A1 Tanks.

Question. What plans does the Marine Corps have to satisfy the remainder of its inventory requirement?

Answer. The Marine Corps does not plan to procure any additional M1A1 Tanks. M1A1 "Common" Tank production has ceased, thus precluding the Marine Corps from meeting its existing requirement by procuring additional tanks. The cost to retool and refacilitize a production facility to produce the limited number of tanks required by the Marine Corps is cost prohibitive.

Question. What plans does the Marine Corps have to modify the 50 tanks it recently received from the Army to the "common configuration"? How much will this cost and how much is currently budgeted for this purpose?

Answer. These tanks will undergo a comprehensive upgrade program to bring them up to the "common configuration" that now exists in the Marine Corps' inventory. This upgrade will cost approximately $10 million in Procurement, Marine Corps and $2 million in Operations and Maintenance. This was an emergent requirement, therefore, no funds were budgeted.

Question. GAO recently recommended that the Army transfer an additional 84 M1A1 tanks to the Marine Corps for maritime prepositioning and that the Department consider transferring an additional 80 tanks which are now scheduled to go to the Army National Guard. What are your opinions of this report?

Answer. The GAO report is an accurate representation of the Marine Corps requirement. However, the remaining Marine Corps tank deficiency is as follows:

Reserves	48

Maritime Prepositioning Force (MPF)	84
Sustainment	40
Total	172

Question. What plans does the Marine corps have to request the transfer of additional tanks from Army?

Answer. At this time, the Marine Corps does not plan to officially ask the Army for additional tank assets.

METEOROLOGICAL MEASURING SET

Question. The budget includes $6.5 million for initial Marine Corps procurement of the Meteorological Measuring System (MMS). Describe this program.

Answer. The Meteorological Measuring System (MMS) is a mobile, lightweight, electronic atmospheric data collection and processing system. It provides accurate meteorological data in all weather conditions based on actual sounding of the atmosphere. The MMS will provide a more accurate description of the weather conditions, thus providing the artillery with a more accurate ballistic solution to the target.

Question. According to the justification material, this is a one-time procurement, with no funding projected beyond fiscal year 1995. Why is the Marine Corps not buying additional systems when the fiscal year 1995 procurement will fill only 70 percent of the acquisition objective?

Answer. The remaining systems required to attain the full acquisition objective are currently being assessed for future funding based on affordability considerations.

Question. The budget back-up sheets indicate that there will be a break in deliveries between April 1995 when the last Army systems are delivered and May 1996 when the Marine Corps deliveries begin. Is this a problem?

Answer. There will be no break in production. The Production Schedule in the budget back-up book did not fully reflect all procurements. Specifically,the Army exercised the second option on their contract in January 1994 for an additional 18 systems to be delivered from April 1995 through December 1995. The Canadian Army will award a contract in September 1995 for 10 systems with deliveries from January 1996 through May 1996.

Question. For the record, compare the unit cost of this system with the unit cost paid by the Army.

Answer. Ten of the 14 Marine Corps systems currently in the Army contract will have the same unit price as the Army. However, the remaining four systems are not on the Army contract. Consequently, a modification to this contract is required. The resulting unit cost will be higher due to the low quantity.

[CLERK'S NOTE.—End of questions submitted for the record.]

THURSDAY, APRIL 21, 1994.

PROCUREMENT, NAVY/RESEARCH AND DEVELOPMENT

WITNESSES

HON. NORA SLATKIN, ASSISTANT SECRETARY OF THE NAVY, RESEARCH, DEVELOPMENT AND ACQUISITION

VICE ADM. T. JOSEPH LOPEZ, USN, DEPUTY CHIEF OF NAVAL OPERATIONS, RESOURCES, WARFARE REQUIREMENTS AND ASSESSMENTS

LT. GEN. CHARLES C. KRULAK, USMC, COMMANDING GENERAL, MARINE CORPS COMBAT DEVELOPMENT COMMAND

INTRODUCTION

Mr. MURTHA. The Committee will come to order. This morning's hearing will cover the Department of the Navy's budget request for Research and Development as well as Procurement. Total funding requested is about $25 billion, an increase of $1 billion from the fiscal year 1994 program of about $24 billion.

We want to welcome Ms. Nora Slatkin, Assistant Secretary of the Navy for Research, Development, and Acquisition, Vice Admiral T. Joseph Lopez, Deputy Chief of Naval Operations, Resources, Warfare Requirements and Assessments and Lieutenant General Charles C. Krulak, Commanding General of the Marine Corps Combat Development Command.

I want to compliment you personally on the way you have handled relations with this Committee. Everybody has been so exemplary, in comparison to the past when we had problems getting information and being able to get things done. We particularly appreciate the way you have run things over there, Ms. Slatkin. We see impressive change in cooperation and direction. I want to personally tell you how much we appreciate your work.

We will put your full statement in the record if you will summarize for us.

SUMMARY STATEMENT OF MS. SLATKIN

Ms. SLATKIN. Thank you very much, Mr. Chairman. Thank you for those kind personal comments. It is a real pleasure to be here today, before your Committee, to testify on the fiscal year 1995 Department of Navy budget request.

As you have mentioned, I am honored to have with me Vice Admiral Joe Lopez, Director of Navy Resources, Warfare Requirements, and Assessments on my right, and Lieutenant General Chuck Krulak, Commanding General of the Marine Corps Combat Development Command on my left.

I would like to start by providing a brief summary of my prepared statement. As you know, the threats of superpower confrontation and global war have passed, but we still face dangers in the world today. Dr. Perry has described four dangers that we see facing the future: The new nuclear danger; the danger posed by regional aggressors; the danger reform will fail in the former Soviet Union; and the danger of not restoring our economic underpinning to maintain our total national security.

With regard to the Department of Navy, however, there is a fifth element that we would like to talk to you about today, and that is our mission of global presence.

As you know, the Bottom-Up Review examined our requirements for the future and said that we need to size our forces based on meeting two equally sized contingencies. In addition, the Department of the Navy also has the mission of global presence. To meet these dangers and stand these watches, we first and foremost must have quality people. The men and women in today's Naval forces are the finest that America has to offer.

But there must be more. We believe our forces must be "right sized," must be recapitalized and must be ready. Those are the three "Rs" that define our Naval Forces for the future: "right-sized," recapitalized and ready. Against that backdrop, I would like to briefly discuss five major programs for you.

First, CVN–76 is our highest priority in this year's budget request. We appreciate the help we have received from the Congress in funding the program. Our request for CVN–76 is based not only on our military requirements, but it is also based on sound program management and budget considerations. We need CVN–76 this year so that we can afford our forces for the future. CVN–76 is a key element of our recapitalization program.

Second, is our submarine industrial base. I understand that you visited a portion of our submarine industrial base last week. We view nuclear submarines as critically important in littoral warfare for the future. We need to proceed with the New Attack Submarine to meet those requirements in fiscal year 1998. To maintain the industrial base capability required for the New Attack Submarine, we need to build SSN–23, and we need to do that in fiscal year 1996.

Third is the DDG–51 destroyer. Clearly, this is the mainstay of our surface force for the future. Our program is based on three DDGs per year. We will be happy to discuss our requirements today if you desire.

Fourth, we need to replace the aging CH–46. That is our highest aviation priority for the Marine Corps. There is no doubt about that. We are developing the V–22 tilt rotor aircraft to meet that need. We ask for your continued support for that program.

Lastly, I want to discuss Naval aviation modernization. I know that over the years this Committee, as well as others, has been concerned about the Navy's inconsistencies in its Naval Aviation plan. We believe that as a team the Department of the Navy is set on a course that makes sense for the future. That course includes three elements.

First and foremost, the F/A–18 is our main aircraft for the future, and the F/A–18 E/F development is the way to modernize our capability by providing longer range, greater payload and improved survivability.

Second is an interim strike upgrade capability for the F–14. We would like to talk to you about that today, and why it is important to provide air-to-ground capability to these aircraft for the future.

Third is the Joint Advanced Strike Technology program, or JAST. We all believe that JAST is the best way to proceed to obtain an affordable aircraft in the future for all of the military Services. In sum, we believe we have a Naval Aviation Plan that makes sense.

To summarize, Mr. Chairman, the Department of the Navy budget request before you is one that provides the proper balance. It is based on prudent force and infrastructure reductions, as well as long-term recapitalization for the future, for both the Navy and Marine Corps.

Thank you for your consideration.

Mr. MURTHA. I am going to ask Admiral Lopez, my old friend from the Fleet, who visits Washington occasionally and my friend General Krulak, who is a field Marine going out to the Pacific to take over there, just to put their comments in the record so we can get right to questions.

[The joint statement of Ms. Slatkin, Admiral Lopez, and General Krulak follows:]

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HOUSE APPROPRIATION COMMITTEE
DEFENSE SUBCOMMITTEE

STATEMENT OF

THE HONORABLE NORA SLATKIN
ASSISTANT SECRETARY OF THE NAVY
(RESEARCH, DEVELOPMENT AND ACQUISITION)

AND

VICE ADMIRAL T. JOSEPH LOPEZ
DEPUTY CHIEF OF NAVAL OPERATIONS
RESOURCES, WARFARE REQUIREMENTS AND ASSESSMENTS

AND

LIEUTENANT GENERAL CHARLES C. KRULAK, USMC
COMMANDING GENERAL
MARINE CORPS COMBAT DEVELOPMENT COMMAND

BEFORE THE

SUBCOMMITTEE ON DEFENSE

OF THE

HOUSE APPROPRIATIONS COMMITTEE

ON THE FY 1995

NAVY PROCUREMENT PROGRAM

AND

NAVY RESEARCH AND DEVELOPMENT PROGRAM

APRIL 21, 1994

NOT FOR PUBLICATION UNTIL
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DEFENSE SUBCOMMITTEE

NORA SLATKIN

On October 22, 1993 Nora Slatkin was sworn in as the Assistant Secretary of the Navy for Research, Development and Acquisition. In this capacity she is responsible for all acquisition policy and procedure and all research, development, production, information resources, shipbuilding and logistics support programs within the Department of the Navy.

Prior to being nominated and confirmed as the Assistant Secretary of the Navy, she served as a Special Assistant to the Under Secretary of Defense for Acquisition. In this capacity she was involved in management of defense acquisition issues on a Department of Defense wide basis.

From December 1984 to January 1993 she was a member of the professional staff of the House Armed Services Committee where she dealt with defense acquisition and intelligence programs. Her responsibilities for the Committee included serving as the lead staff member of the Subcommittee on Procurement and Military Nuclear Systems, oversight of procurement and intelligence programs, coordination of the Committee's activities with the House and Senate Permanent Select Committees on Intelligence, membership on the Chairman's defense policy planning team and principal advisor to the committee on procurement issues.

For seven years prior to joining the professional staff of the House Armed Services Committee Ms. Slatkin was a defense analyst with the Congressional Budget Office. As the principal analyst for ground force issues she authored numerous reports and prepared congressional testimony for the Director. In addition she has worked as a graduate fellow at the National Security Council, the Department of State and the Central Intelligence Agency.

Ms. Slatkin is a Phi Beta Kappa graduate of Lehigh University (1977) with a degree in international relations and holds a Master of Science degree in Foreign Service from Georgetown University (1979). She has also attended the Harvard University Program for Senior Executives in National and International Security (1990).

Ms. Slatkin was born in Glen Cove, New York on May 5, 1955. She and her husband, Deral Willis, reside in Annapolis, Maryland.

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

Vice Admiral T. Joseph Lopez

Deputy Chief of Naval Operations
(Resources, Warfare Requirementsand Assessments)

Vice Admiral Lopez was born in Powellton, West Virginia January 20, 1940. He entered the U.S. Navy in September 1959 and was commissioned in December 1964. His education includes a Bachelor of Arts (cum laude) in International Relations and a master of Science in Personnel Management. After commissioning, he served aboard USS EUGENE A. GREENE (DD 711) and USS WALLACE L. LIND (DD 703) and attended the U.S. Naval Destroyer School. In 1969 he was assigned as Commanding Officer of River Division ONE FIVE THREE in Vietnam, where one of his tasks was commanding a joint U.S. and Vietnamese naval assault into Cambodia in May 1970.

Vice Admiral Lopez completed his education at the Naval Postgraduate School from August 1970 through June 1973, was ordered to the Armed Forces Staff College, and began a two year tour as Flag Secretary for Commander Cruiser Destroyer Group EIGHT in 1974. In October 1977, he was reassigned as Executive Officer of USS TRUETT (FF 1095) followed by duty at the Naval Military Personnel Command as the Cruiser-Destroyer Atlantic Placement Officer in March 1979. Vice Admiral Lopez was subsequently assigned in June 1980 as the Special Assistant for Navy Personnel to the Assistant Secretary of the Navy (Manpower, Reserve Affairs, and Logistics). He assumed command of USS STUMP (DD 978) in September 1982, completing a Persian Gulf deployment in 1983. He was assigned in November 1984 as Special Assistant to the Chief of Naval Personnel.

Vice Admiral Lopez commanded Destroyer Squadron THIRTY-TWO from February 1987 through March 1988. In 1988 he served as Executive Assistant to the Chief of Naval Personnel/Deputy Chief of Naval Operations and in August 1988 was assigned as the Executive to the Vice Chief of Naval Operations. Vice Admiral Lopez served from July 1989 through July 1990 as Deputy Director for Current Operations in the Office of the Joint Chiefs of Staff and as the Senior Military Assistant to the Secretary of Defense from August 1990 to June 1992. He was promoted to Vice Admiral in July 1992. Vice Admiral Lopez commanded the United States Sixth Fleet and NATO's Striking and Support Forces Southern Europe from July 1992 to December 1993. He assumed duties as Deputy Chief of Naval Operations (Resources, Warfare Requirements & Assessments) in December 1993.

Vice Admiral Lopez wears the Defense Distinguished Service Medal, the Navy Distinguished Service Medal, three Legions of Merit, the Bronze Star (with Combat "V"), two Meritorious Service Medals, two Navy Commendations Medals (with Combat "V"), Navy Achievement Medal (w/Combat "V"), Combat Action Ribbon, Presidential Unit Citation and numerous other unit and campaign awards.

Vice Admiral Lopez is married to the former Vivian Hall of Longacre, West Virginia. They have a son, Tom, and a daughter, Dominique.

UNITED STATES MARINE CORPS

HEADQUARTERS MARINE CORPS, DIVISION OF PUBLIC AFFAIRS
WASHINGTON, D.C. 20380, (703) 614-4309

LIEUTENANT GENERAL CHARLES C. KRULAK, USMC

Lieutenant General Charles C. Krulak is currently serving as the Commanding General, Marine Corps Combat Development Command, Quantico, Virginia.

General Krulak was born on March 4, 1942 in Quantico, Virginia. He graduated from the U.S. Naval Academy in 1964 with a B.S. degree in Engineering and also holds an M.S. degree in Labor Relations from George Washington University (1973). He is a graduate of the Amphibious Warfare School (1968); the Army Command and General Staff College (1976); and the National War College (1982).

Since his commissioning and graduation from The Basic School at Quantico, General Krulak has held a variety of command and staff positions. He commanded a platoon and two rifle companies during his two tours of duty in Vietnam; Commanding Officer, Special Training Branch, and Recruit Series, MCRD, San Diego, Calif. (1966-1968); Commanding Officer, Counter-Guerilla Warfare School, NTA, Okinawa (1970); Company Officer, U.S. Naval Academy (1970-1973); Commanding Officer, Marine Barracks, Naval Air Station, North Island, Calif. (1973-1976); and Commanding Officer, 3d Battalion, 3d Marines (1983-1985).

General Krulak's staff assignments include: S-3 of the 2d Battalion, 9th Marines (1977-1978); Chief of the Combat Arms Monitor Section, Headquarters Marine Corps, Washington, D.C. (1978-1979); Executive Assistant to the Director of Personnel Management, Headquarters Marine Corps (1979-1981); Plans Officer at FMF Pacific (1982-1983); Executive Officer, 3d Marines, 1st MEB; Assistant Chief of Staff for Maritime Pre-positioning Ships, 1st MEB; Assistant Chief of Staff, G-3, 1st MEB; and the Military Assistant to the Assistant Secretary of Defense for Command, Control, Communications and Intelligence, Office of the Secretary of Defense.

He was assigned duty as the Deputy Director, the White House Military Office in September 1987. While serving in this capacity, he was selected for promotion to brigadier general in November 1988. He was advanced to that grade on June 5, 1989, and assigned duties as the Commanding General, 10th Marine Expeditionary Brigade/Assistant Division Commander, 2d Marine Division, FMF, Atlantic, Camp Lejeune, N.C., on July 10, 1989. On June 1, 1990 he assumed duties as the Commanding General, 2d Force Service Support Group/Commanding General, 6th Marine Expeditionary Brigade, FMF, Atlantic, Camp Lejeune, N.C. He served in this capacity until July 12, 1991, and was assigned duty as Assistant Deputy Chief of Staff for Manpower and Reserve Affairs (Personnel Management/Personnel Procurement), Headquarters Marine Corps on Aug. 5, 1991. He was advanced to major general on March 20, 1992. General Krulak assumed his current assignment on Aug. 24, 1992, and was promoted to his present grade on Sept. 1, 1992.

His decorations and medals include: the Defense Distinguished Service Medal; Distinguished Service Medal; Silver Star Medal; Bronze Star Medal with Combat "V" and two gold stars; Purple Heart with gold star; Meritorious Service Medal; Navy Commendation Medal; Combat Action Ribbon; Presidential Unit Citation with bronze star; National Defense Service Medal with one bronze star; Vietnam Service Medal with silver star and two bronze stars; Southwest Asia Service Medal with two bronze stars; Sea Service Deployment Ribbon; Republic of Vietnam Cross of Gallantry; Republic of Vietnam Meritorious Unit Citation (Gallantry Cross Color); Republic of Vietnam Meritorious Unit Citation (Civil Actions Color, 1st Class); the Republic of Vietnam Campaign Medal; and the Kuwait Liberation Medal.

Lieutenant General Krulak is married to the former Zandra Meyers of Annapolis, Maryland. They have two sons, David and Todd.

(Revised Oct. 2, 1992 HQMC)

Mr. Chairman, distinguished members of the Defense Subcommittee, thank you for this opportunity to appear before you to discuss the FY 1995 Navy Procurement, and Research, Development, Test and Evaluation budget requests.

The threats of superpower confrontation and global war have passed but we still face dangers in this new, post-Cold War world. These dangers were identified in the *Bottom-Up Review*. First, the new nuclear danger, second the danger posed to U.S. interests and allies by regional aggressors, third the danger that reform will fail in the former Soviet world and fourth, the danger that we will not restore the economic health that underpins our fundamental security.

As regards the Department of the Navy, we should also mention a fifth element from the *Bottom-Up Review* -- not a danger but a mission. That mission is global presence. The *Bottom-Up Review* recognized that the chief sizing factor for our conventional forces was the requirement to fight two, nearly simultaneous major regional conflicts (MRCs). However, it also recognized that our overseas presence needs can impose requirements for Naval forces, especially aircraft carriers, that exceed those needed to win two MRCs. Your Naval forces are on watch around the world today.

To meet these dangers and stand these watches, we first and foremost must have quality people. The men and women in today's naval forces are the finest America has to offer. But there must be more. Our forces must be rightsized, recapitalized and ready. Those are the three R's that define our superb naval forces in this new era -- rightsized, recapitalized and ready. The Department of the Navy's FY 1995 budget request provides the resources necessary to meet these needs.

The capabilities needed to conduct modern warfare in the new projected operating environment are often different than those needed to meet the threats of the last several decades. In order to execute the "*...From The Sea*" strategy, the Department's major efforts shift from supporting blue water operations to meeting the unique requirements posed by operating in the littoral. The FY 1995 budget request reflects the need for new weapons systems designed to meet the challenges of the new threat environment, as well as upgrades to current platforms and systems. Our weapons systems and equipment must now be capable of supporting joint operations, provide enhanced survivability, and support maneuver warfare from the sea.

We also recognize the need to minimize the increased vulnerability associated with new regional threats, by improving capabilities in the areas of mine countermeasures, Naval Surface Fire Support, air to ground strike capability, surveillance, communications, sealift, and the amphibious lift capabilities needed to effectively deploy Marine Expeditionary Forces. Furthermore, we seek the enhanced capabilities needed to carry out other assigned missions, including Maritime Intercept Operations, counter-narcotics missions, operations with allied forces, and new missions such as Theater Ballistic Missile Defense.

Within the Department's acquisition and warfighting requirements organizations, our **primary goal** is to provide the technologically advanced weapons, platforms and systems required to recapitalize a smaller, but highly capable Naval force.

A NEW STRATEGY

There are many challenges to attaining our goal. In the process of adapting our strategy to a new set of operational and fiscal requirements, we were forced to make tough decisions regarding force structure and capabilities, modernization, and the industrial base.

Combat readiness remains the Department's number one priority. However, the reality of declining resources means that fewer dollars are available to recapitalize -- and ensure future readiness by funding a process of continuous modernization. While this situation has not adversely impacted the readiness of today's force, in our planning we recognized that if we do not recapitalize by replacing equipment and weapon systems year by year -- we place future readiness at substantial risk. Therefore, we acknowledge that the downward trend in procurement cannot continue indefinitely -- we must continue to recapitalize throughout the Future Years Defense Program (FYDP).

Prudent force structure reductions alone will not yield enough savings to fund modernization. Future reductions must follow the example of reductions taken thus far -- and remain firmly based upon the changed requirements of operating in a new world. We are rapidly approaching a rightsized force structure of 330 ships, 11 carrier air wings, and three Marine Corps Expeditionary Forces. Having made the appropriate reductions in force structure, we must shift focus to other areas within the Department to identify savings. By aggressively identifying these savings, the Department will liberate resources for modernization -- to adapt current weapons systems and platforms to new missions, and develop and procure new systems needed to meet the unique warfighting requirements of the littoral.

Our new strategy includes five critical elements -- affordable modernization, joint systems development, infrastructure rightsizing, acquisition reform, and an industrial base policy.

Affordable Modernization. Future procurement budgets are not likely to support an effort to obtain large numbers and a wide variety of new systems. Therefore, the FY 1995 budget request includes carefully selected investments to update our most capable platforms and weapons systems. For example, the Lightweight Hybrid Torpedo concept addresses the need to improve shallow water torpedo performance -- critical to littoral operations. By adapting technology already present and paid for in the MK-50 and MK-48 ADCAP programs to update the MK-46 torpedo, this program illustrates our new approach to cost conscious modernization.

Joint Systems Development. Our focus is on developing multi-mission platforms, systems, and weapons that will serve as true force multipliers, while meeting the requirements of more than one service. Joint efforts in weapons development include the Joint Direct Attack Munition (JDAM), Joint Standoff Weapon (JSOW), and Tri-Service Standoff Attack Missile (TSSAM) programs. The Joint Advanced Strike Technology (JAST) program represents a major effort to support successful development and production of the next generation of strike weapons systems for the Navy, Marine Corps, and Air Force. In addition to enhanced overall affordability, programs that meet joint requirements also make sense from an inter-operability perspective -- we must be able to communicate and operate with the other services on the battlefield.

Infrastructure Rightsizing. We are taking the necessary steps to define organic depot requirements and capabilities needed for the future. We have also recognized the need to rightsize our laboratories, warfare development and training centers, and explore cost-saving alternatives such as outsourcing. Through consolidation and the BRAC process, we are shedding the burden of excess infrastructure that is no longer needed to support a smaller, more technologically advanced force.

Acquisition Reform Initiatives. Acquisition reform supports the larger goals of the *National Performance Review*. As we reinvent our acquisition system -- to make it work better and cost less -- we also liberate funds for modernization. To this end, the Department of the Navy fully supports the comprehensive acquisition reform initiatives sponsored by the Deputy Undersecretary of Defense for Acquisition Reform.

The Department of Defense has identified seven candidate pilot programs along with recommended statutory waivers that will enable these programs to achieve real savings while benefiting from the use of advanced commercial products and practices. The Joint Direct Attack Munition (JDAM) and Joint Primary Aircraft Training System (JPATS) are joint Navy-Air Force programs that are candidates for the acquisition reform pilot program.

The manufacturing revolution taking place in American industry includes new techniques and concepts for systems development and manufacturing, and involves cost-saving changes in every phase of the production process -- from design to prototyping to full production. To take advantage of these significant unit cost savings and quality improvements, we must strive to remove many of the barriers, including military specifications, separate cost accounting and oversight requirements, that prevent us from participating in these opportunities.

By aggressively pursuing use of Commercial Off the Shelf (COTS), Non-Developmental Items (NDI), and appropriate dual use technologies, we can lower our costs and at the same time obtain the latest commercial technologies. Industry also benefits as we expand the production base and lower unit costs for everyone. An example of the Department's efforts in pursuit of COTS is the multipurpose processor to support the TB-29 towed array -- part of the upgrade to the AN/BSY-1 combat system for the improved LOS ANGELES Class (SSN-688I) submarine. This combat system upgrade incorporates an open systems architecture that will promote future improvements using COTS technology.

Industrial Base Policy. The Department can no longer afford to sustain an entirely separate defense unique industrial base. The defense unique sector will continue to shrink in the next several years. However, we are especially concerned with the viability of those critical portions of the industrial base that have no private sector equivalent, such as nuclear shipbuilding, warship design and construction. The FY 1995 budget request reflects our new strategy to selectively retain critical core capabilities.

The submarine industrial base remains a significant concern. The Department of Defense completed an in depth review of submarine force levels and industrial base issues during the *Bottom-Up Review*. The review concluded that the gap in submarine production between the SSN-22 and the New Attack Submarine entailed significant risks, and that the SSN-23 should be constructed at the Groton shipyard to serve as a production bridge. This action, along with procurement of CVN-76 in FY 1995, will maintain two nuclear capable shipyards, as well as help to sustain the highly specialized vendor base.

SUMMARY

Technological superiority remains the key to maintaining our dominance over potential adversaries. The relative value of our technological superiority can only increase as we deploy with a smaller force in the future. Together, infrastructure rightsizing and acquisition reform must yield the savings needed to fund future modernization. Our success in these two areas is critical and will determine to what extent we can recapitalize the Naval forces of the future.

The Department of the Navy has made the difficult and complex choices, tradeoffs, and sacrifices required to meet the many challenges of a changed threat and austere fiscal environment. We seek your continued support in our efforts to provide the nation with Naval forces that are second to none. Approval of our FY 1995 Research, Development, and Procurement program requests, and the Department's rightsizing initiatives are all critical steps to realizing our strategic vision ...*From the Sea*, with the force structure called for in the *Bottom-Up Review*.

PROGRAM INFORMATION

SCIENCE AND TECHNOLOGY HIGHLIGHTS

Today's Naval forces have the ability to deploy worldwide and to sustain forward presence -- anywhere and at anytime. This capability and our technologically superior weapons, platforms, and equipment are due in large measure to past sustained investments in science and technology (S&T). In the current fiscal environment -- as we rightsize and streamline both forces and infrastructure, it is of paramount importance that we retain our ability to produce "winning edge" technological capabilities.

In FY 1995, the Department's S&T program will address priorities defined by the Department of Defense's Joint Mission Areas/Support Areas and the Marine Corps Combat Development Process. This approach will allow us to meet long-term needs identified by the warfare communities while we continue to sustain broad and flexible programs that target areas of science and technology with relevant potential for future programs. Our focus is on those technologies that appear the most promising and affordable. Additionally, we have demonstrated a strong commitment to work with the other Services in the Tri-Service Reliance process, and with other government agencies in cooperative ventures. This cooperative approach serves to leverage our limited resources by avoiding duplication and overlap among the Services and individual government agencies.

A new area of emphasis is participation in joint efforts with the Advanced Research Projects Agency (ARPA) and the Army, focusing on power projection and prosecution of the land battle. Superior technologies are required to support operational capabilities in the complex transitional environment involving the war at sea, the land war, joint service and coalition warfare. Examples of these efforts include the Joint Mine Countermeasures and Advanced Concept Technology Demonstrations.

A new emphasis has also been placed on military/industry partnerships. By working closely with industry on Advanced Technology Demonstrations we will prove new concepts, while mitigating technical and production risks before committing to full scale development. Because only the most promising technological opportunities will be considered for Advanced

Technology Demonstrations, we can expect greater assurance of successful subsystem and system development, at realistic costs.

To support our nation's industrial base, we will continue to encourage traditional dual-use technologies through programs such as the Manufacturing Technology Program (MANTECH), joint licensing agreements, and Cooperative Research and Developments Agreements with industry. So far, we have established 129 cooperative partnerships with industry since the beginning of this year.

In FY 1995, the Department of the Navy will initiate a new dual-use program. This $50 million program is focused on developing a partnership with industry and academia to identify and further develop the emerging technologies that are needed for improving or developing new products for future commercial markets and military systems.

The FY 1995 RDT&E budget request of $8.935 billion demonstrates the Department's commitment to remain at the forefront of science and technology. This account is being maintained at near zero percent real growth at a time when procurement and operating accounts are declining. The most significant RDT&E efforts in FY 1995 include the F/A-18E/F, V-22, Ship Self Defense, and the New Attack Submarine programs.

NAVAL AVIATION PROGRAMS

F/A-18

The F/A-18 is the only fixed-wing carrier-capable combat aircraft currently in production, and is the only such aircraft currently planned to be in production for the next fifteen years. The Department plans to continue production of the C/D version, leading to initial production of the F/A-18E/F in FY 1997. The FY 1995 request includes procurement of 24 F/A-18C/Ds, with 24 additional aircraft planned each year in FYs 1996 and 1997. The combat proven F/A-18C/D will serve our carrier air wings and Marine air wings well into the twenty-first century.

The F/A-18C/D however, has reached its limit for future growth. There is inadequate volume within the airframe to accommodate the new weapons and systems that are currently under development. Limitations extend to electrical power and cooling capacity as well.

The F/A-18E/F represents an affordable mid-term solution to providing the strike capability needed to support warfare in the littoral. The F/A-18E/F will provide increased range, payload, and flexibility. The Research and Development budget request is $1.348 billion in FY 1995. To date, the program is on cost, on schedule, and meeting all performance criteria.

JAST

To define a theater air capability that meets current and future needs at affordable costs, the Department has decided to limit its program decisions to those focused on meeting current deficiencies, and those which will enable future options. The Secretary of Defense initiated the Joint Advanced Strike Technology (JAST) program to serve as the Department of Defense's focal point for defining future strike systems. Using a joint service integrated product team of warfighters and technologists, the JAST Program will transition and demonstrate affordable technologies and manufacturing processes. These efforts will reduce the life cycle cost of future strike systems and promote joint service use and commonality needed to support successful development and production of next generation strike weapon systems for the Navy, Marine Corps, Air Force, and our allies.

F-14

As our focus continues to shift from Fleet Air Defense to littoral operations, we are upgrading 210 F-14 aircraft with a precision ground attack capability. This will increase the total number of precision strike capable aircraft in our carrier air wings and partially compensate for the loss of A-6 capabilities. We are requesting $143.8 million in FY 1995 for F-14 Block 1 Strike Upgrade program research and development. Our FY 1995 request also includes $130.8 million for a survivability, structural, and interoperability upgrade for the F-14A/B. This upgrade is critical, since the F-14 must now remain a viable asset until replaced by the F/A-18E/F and JAST-derived product.

V-22

Effective operational maneuver in the littoral requires the capability to project forces deep inland from the sea. The slow and aging CH-46 medium lift helicopters simply do not have the capability, survivability, or potential for upgrade to carry out these new missions. Therefore, replacement of the CH-46 is the Department's highest aviation priority for the Marine Corps.

The development of the V-22 tilt-rotor aircraft will meet this need. The V-22 development effort continues in FY 1995 with $496.9 million for RDT&E requested. A joint Navy/Marine Corps and U.S. Special Operations Command affordability assessment, a Cost and Operational Effectiveness Analysis, and an independent risk assessment are being conducted to evaluate medium lift alternatives and provide a solid analytical foundation for the Defense Acquisition Board review this fall.

E-2C

The FY 1995 budget request includes funding for the procurement of E-2C Group II aircraft at a rate of 4 per year through the FYDP. We have decided to pursue new procurement in lieu of the Group Zero retrofit program. New procurement beginning in FY 1995 allows overall program savings and service life increases over the retrofit program. The benefits of uninterrupted production following FY 1994 Foreign Military Sales deliveries will also be realized.

The E-2C Mission Computer Upgrade program will utilize Commercial Off The Shelf (COTS) hardware, open architecture, and standard higher order programming language. This new computer will enable the E-2C to fully exploit the capabilities inherent in its current sensors, correct operational software deficiencies due to limitations of the present computer, and provide the capacity for the E-2C to fully participate in Cooperative Engagement.

AV-8B

Remanufactured AV-8B aircraft will provide the Marine Corps with a highly effective day/night close air support capability while meeting affordability concerns. Major components of the day attack aircraft such as the wing, horizontal stabilator, vertical tail and many internal components and systems will be reused to reduce program costs. The AV-8B Remanufacture Program budget request is $145.7 million for four aircraft in FY 1995. This year we will begin converting approximately 73 existing day attack AV-8B aircraft to the night attack/radar configuration. Furthermore, AV-8B production line interruption is avoided by procuring remanufactured aircraft at minimum rates in FY 1994 and FY 1995, then increasing production throughout the FYDP.

AH-1W

The Department's FY 1995 commitment to modernize the Marine Corps attack helicopter community is represented by our 1995 budget request for 12 AH-1W aircraft at $141.7 million. The AH-1W's ability to employ mission-tailored weapons (TOW, HELLFIRE, SIDEARM, SIDEWINDER, rockets and 20MM cannon) and its Night Targeting System greatly expands the operational capability of the Super Cobra, corrects a serious DESERT STORM deficiency, and provides precise close-in fire support and assault fire suppression.

T-45

The T-45 Training System is an integrated jet flight training system for student Naval Aviators. The T-45 procurement profile is structured at a minimum rate of 12 aircraft per year through FY 1999 on the basis of affordability, reductions in the Pilot Training Rate, and the Navy's participation in the Joint Primary Aircraft Training System (JPATS) with the Air Force. Our FY 1995 procurement request is $245.4 million.

EA-6B

The EA-6B ICAP II is the most capable, combat proven airborne tactical jamming system in the world. The Department decided to terminate the EA-6B ADVCAP program after careful examination of current EA-6B ICAP II capabilities *vis a vis* anticipated post-Cold War threats. The termination saves about

$7.3 billion. We are proposing an increase in the FY 1995 EA-6 modification account to procure some of the avionics improvements previously budgeted in the remanufacture line.

SHIP AND SUBMARINE PROGRAMS

AIRCRAFT CARRIERS

The *Bottom-Up Review* concluded that a force of 12 aircraft carriers -- 11 active and 1 operational reserve -- is needed to meet warfighting and tethered overseas presence requirements. CVNs 74 and 75, the seventh and eighth NIMITZ Class nuclear aircraft carriers, are currently under construction.

The Department's plan for modernization of the carrier fleet capitalizes on the efficiencies and economies of continuing the CVN new construction process. It avoids future cost risks associated with delaying the new construction, the "bow wave effect" of having to construct multiple carriers at the same time, and recognizes the industrial base preservation benefits of uninterrupted series construction.

The FY 1995 budget requests funding for the construction of CVN-76, the tenth nuclear powered carrier and a keystone of our future fleet. Advance Procurement funds for long lead nuclear components were authorized and obligated for CVN-76 in FY 1993. The CVN-76 budget request for $2.447 billion in FY 1995 is based on the assumption that Congress will authorize the $1.2 billion appropriated in FY 1994.

DDG-51

The ARLEIGH BURKE (DDG-51) class destroyer represents a quantum technological leap with state of the art area air and self defense capabilities, increased capacity for vertical launched land attack cruise missiles, and greatly improved damage control capabilities -- all incorporated into our latest hull design.

The DDG-51 Flight IIA upgrade responds to littoral warfighting requirements by incorporating a dual helicopter hangar and organic LAMPS MK III capability. This will facilitate embarkation of multi-mission SH-60B helicopters configured for anti-surface, anti-submarine, mine warfare, and naval surface fire support. Additional upgrades include a sonar modification which improves mine detection capability.

We have developed an affordable plan that procures three DDG-51's per year in order to recapitalize the surface combatant force as well as sustain industrial base viability. The DDG-51 program is now in full production. Our FY 1995 budget requests funding for three DDG-51 class destroyers at $2.698 billion. DDG-51 Class destroyers will be the centerpiece of our surface combatant force for the twenty-first century.

SHIP SELF DEFENSE

One of the highest priorities in the Department is to strengthen Ship Self Defense capabilities. Our Ship Self Defense program will fully integrate ship, force, and other service sensors in order to achieve 24 hour extended range coverage and improve early detection and sharing of hostile target information. Significant efforts include improving the Phalanx Close-In Weapon System, procuring the Rolling Airframe Missile, and developing the Evolved Sea Sparrow Missile. Our FY 1995 budget request includes $519.4 million for Ship Self Defense programs.

SUBMARINES

SEAWOLF

The SEAWOLF Program remains on schedule with SSN-21 and SSN 22 in construction at Groton and scheduled for delivery in May 1996 and June 1998, respectively. SSN-21 is approximately 60 percent complete, with major hull sections in the process of being joined. The construction of SSN-22 is now approximately 16 percent complete.

Truncation of the SEAWOLF Program in early 1992 created a significant gap in submarine construction. The Department of Defense analyzed this issue in the *Bottom-Up Review* and concluded that a third SEAWOLF -- SSN-23, should be produced at the Groton shipyard. This third SEAWOLF will "bridge" the production gap between SSN-22 and the New Attack Submarine and avoid the adverse consequences of shutting down this nuclear shipyard.

NEW ATTACK SUBMARINE

The New Attack Submarine research and development program is proceeding in FY 1995, with a request for $507.3 million. Current plans call for production of a New Attack Submarine starting in FY 1998 at the Groton shipyard. We believe that the New Attack Submarine will provide the operational flexibility and stealth needed to conduct future missions -- including covert surveillance, mine warfare, strike, and special operations missions ahead of the rest of the joint task force. The New Attack Submarine represents a highly mission capable, yet more affordable follow-on to the SEAWOLF program. Cost reduction initiatives, such as using Commercial Off The Shelf (COTS) and Non-Developmental items (NDI), are being incorporated within the program.

WEAPONS PROGRAMS

JOINT WEAPONS

The value of precision guided weapons in anticipated threat scenarios is well substantiated by the experience of the last several years. Increased standoff capability will also lessen risks to our sailors and Marines. The Department continues to participate in the development of the Joint Direct Attack Munition (JDAM), Joint Standoff Weapon (JSOW) and Tri-Service

Standoff Attack Missile (TSSAM). The FY 1995 RDT&E budget request contains $25.2 million for JDAM, $111.1 million for JSOW, and $66.7 million for TSSAM development.

TRIDENT II (D-5) MISSILE

Procurement is budgeted at $696.0 million in FY 1995 for the procurement of 18 missiles, down from 24 missiles in FY 1994. Reduction of contractor plant capacity is continuing in order to minimize unit cost increases. The Department is also evaluating a component-based industrial strategy approach to achieve additional savings.

TOMAHAWK

The core strike capability provided by our surface combatants and attack submarines is the ability to launch precision strikes with the Tomahawk Land Attack Missile. RDT&E funding of $81.9 million in FY 1995 includes support for the Tomahawk Baseline Improvement Program (TBIP) Engineering and Manufacturing Development effort. The TBIP program will improve Tomahawk accuracy and reliability, and reduce collateral damage. FY 1995 procurement of the more capable Tomahawk Block III TLAM-C/D missile is budgeted for 217 missiles at $302 million.

RAM

The Rolling Airframe Missile (RAM) is a critical element of our Ship Self Defense capability improvement efforts. The RAM will be installed on the FFG-7, LHD, and DD-963 class ships to provide these platforms with an anti-air defense-in-depth capability. RAM procurement continues in FY 1995, for a total of 240 missiles at $63.5 million.

SLAM

The SLAM Expanded Response (SLAM-ER) program will improve performance, employability, and strike lethality. Existing SLAM inventories will be upgraded through a retrofit program. The FY 1995 SLAM program procurement request is for 58 missiles at $68.7 million.

AMRAAM

The Advanced Medium Range Air to Air Missile (AMRAAM) will fill a significant air-to-air Beyond Visual Range requirement and complement the AIM-9 missile in the short range arena. AMRAAM is being jointly procured with the Air Force. Our FY 1995 budget request includes $84.3 million to procure 106 missiles and $27.9 million (RDT&E) for Pre-planned Product Improvement program.

TSSAM

The Tri-Service Standoff Attack Missile (TSSAM) will provide the Air Force, Navy and Marine Corps with a stealthy, precision air to surface weapon for suppression of enemy air defenses. FY 1995 program efforts continue with joint research and development. Our FY 1995 budget request is for $66.7 million.

TORPEDOES

Final procurement of the MK-48 ADCAP torpedo occurs in FY 1994 and will be succeeded by the MK-48 ADCAP modification program in FY 1995. Additionally, the MK-46 service life extension program continues in FY 1995. Both of these programs will address the shallow water performance upgrades necessary to support littoral warfare.

COMMAND and CONTROL PROGRAMS

In the Command and Control area, the Department continues the emphasis on increasing Command, Control, Communications, Computers, and Intelligence (C4I) capability in all CVs, LHDs and LHAs. We seek procurement of C4I equipment that will allow a Joint Task Force commander to operate successfully from these ships while underway.

The Cooperative Engagement Capability (CEC) program coordinates battle force anti-air warfare, surface, and airborne sensors into a single, real-time composite track picture of fire control quality. Cooperative Engagement also provides for high capacity, anti-jam data distribution. The FY 1995 RDT&E budget request is for $134.6 million.

The Tactical Advanced Computer (TAC-4) program will provide the Navy with fourth generation computer work stations, servers, software, technical services, maintenance, training and logistic support. TAC-4 will combine tactical and non-tactical applications in a common operating environment utilizing commercial off the shelf hardware that conforms to open systems standards.

CONCLUSION

Our goal remains paramount -- to equip a smaller but highly capable, technologically advanced Naval force with the most capable weapons systems in the world. The challenges are formidable. We seek the support of the Congress in executing the decisions necessary to implement our overall strategy.

The Department of the Navy's FY 1995 budget request is a carefully balanced plan that addresses the necessary tradeoffs, prudent choices, and risk mitigation needed to make our strategy work. It provides selective investments for the future -- investments that will ensure the that Nation enters the twenty-first century with flexible, highly capable Naval forces that will meet the challenge -- anywhere in the world, under any conditions.

Mr. MURTHA. I have the highest regard for these two Naval officers—I say that in quotation marks, "Naval officers"—for their contribution to this great country's defense over the years.

General Krulak and I served together in Vietnam. I was an intelligence officer for the Marines. He was a lowly second lieutenant out in the field. Every lieutenant we had was wounded or killed in the year I was in Vietnam. And every officer was wounded. We had an average of 100 percent casualties. We had a lot of casualties during the year that I was there. General Krulak was one of them.

With that, I will turn to Mr. McDade to see if he has any questions.

SH–60B HELICOPTER

Mr. MCDADE. Mr. Chairman, thank you.

Madam Secretary, welcome. We thank you for your testimony. We thank your associates as well; you are a long-standing member of this Committee, ex officio. We are glad to have you here.

Let me direct my attention to an issue that has been brought to my attention, and that is this question of the SH–60B helicopter. As I understand it, Madam Secretary, it was in the Navy's budget recommendation and got caught at the OSD level and fell out of the budget. Is that kind of the history of that? From a budgetary point of view?

Ms. SLATKIN. Yes, sir.

Mr. MCDADE. It has been told to me if that decision holds, there will be a 5 percent shortfall in deployable helicopters. Is that an accurate number, in your opinion?

Ms. SLATKIN. I would like to make a couple of comments and then ask Admiral Lopez to talk specifically to that question.

As you noted, the SH–60B originally was in our program proposal when it went up to OSD. There was great discussion at the OSD level that the Secretary participated in concerning whether our requirements had been met.

We went back and took at look at our requirements. There was some question regarding attrition and pipeline requirements. The CNO felt confident in his projections and reported to the Secretary that our force requirements had been met and that we could do without the SH–60Bs in fiscal year 1995.

That is essentially what happened. Admiral Lopez may want to amplify on that, but that is essentially what happened.

Admiral LOPEZ. Yes, sir, I concur with the Secretary's remarks. What you will find in the future is that we will cover all of our decks in a deployed status, with the possible exception of some of our ships that carry two aircraft; we may put only one aircraft on some of them. But all of our deployed ships, 100 percent, will have SH–60s aboard.

Mr. MCDADE. Is it accurate to say, Admiral, that this system has been configured so well that you are using it more than you ever thought you would?

Admiral LOPEZ. Absolutely. It is an excellent platform. If not for an affordability issue, we would buy more.

Mr. MCDADE. Gives you over-the-horizon coverage, in addition to anti-sub capability, et cetera? You are using it for a lot more than you thought you would get out of it, aren't you?

Admiral LOPEZ. Yes, sir, that is true.

Mr. MCDADE. One of the concerns is as you make use of them, of course, you wear them out. And when you are not replacing them—what are the termination costs associated with that?

Ms. SLATKIN. There are no termination costs. There are, however, line shutdown costs.

Mr. MCDADE. What kind of numbers are we talking about?

Ms. SLATKIN. It is about $50 million. That is our estimate.

Mr. MCDADE. Has the current SH–60B Block Upgrade program experienced a cost increase because of the decision to cancel SH–60B production?

Ms. SLATKIN. We believe there is some cost increase on the Block Upgrade program. Frankly, it is a result of reallocation of overhead at contractor facilities, so it would be hard to give you an estimate at this point as to the actual amount of the cost increase.

Mr. MCDADE. If you want try to furnish an estimate for the record, we would be pleased to have that.

[The information follows:]

The elimination of the FY 1995–1997 aircraft was considered as part of the formulation of outyear requirements in the FYDP. The cost impact on the SH–60R program is being evaluated and required changes will be reflected in the FY 1996 budget request.

Mr. MCDADE. What would be the cost of seven SH–60B's in the budget and what would be the cost change for the Blackhawk program?

Ms. SLATKIN. I believe the cost of seven aircraft is approximately $247 million. Interestingly enough, because Blackhawk is on a multiyear contract, there would be no impact from our termination.

Mr. MCDADE. In the current fiscal year?

Ms. SLATKIN. Yes, sir.

Mr. MCDADE. What about outyears? How long is that multiyear in Blackhawk?

Ms. SLATKIN. Through 1996, I believe.

Mr. MCDADE. Any way to read it after that?

Ms. SLATKIN. Not at this point. Let me take the question for the record.

[The information follows:]

The current U.S. Army Blackhawk program is on a multiyear contract through FY 1996. The prime contractor, Sikorsky, has indicated that there would not be an impact to the Army's multiyear contract because of the SH–60B production shut down.

Mr. MCDADE. You would be buying four, therefore one could expect the usual kind of consequences?

Ms. SLATKIN. Yes.

Mr. MCDADE. So it is an affordability decision. It is kind of a mini-AWACS in the fleet, isn't it?

Admiral LOPEZ. I would say so, yes, sir. Particularly for a destroyer, we use it for over-the-horizon capability.

AIRCRAFT CARRIER CVN–76

Mr. MCDADE. That is hard to come by. I want to just chat with you a minute, if I may, about the carrier. I see you have $2.5 billion in the budget request. That is your number-one priority?

Ms. SLATKIN. Yes sir, it is in this budget as our number-one priority.

Mr. MCDADE. What will be the age of the carrier being replaced?

Ms. SLATKIN. I believe the carrier being replaced is the KITTYHAWK. Its age will be 42 years at the time it is replaced.

Mr. MCDADE. Forty-two?

Ms. SLATKIN. Forty-two years at the time it is replaced.

Mr. MCDADE. I would say we got our money's worth. Why is it necessary to provide funding for CVN–76 in fiscal year 1995?

Ms. SLATKIN. It is necessary for two reasons, Mr. McDade. First, we need to maintain a carrier force of 11 active and one operational reserve carrier. We need to do that now and for the future. We want to move to an all-nuclear carrier force over time. There are many reasons to do that, the most important being military utility. In addition, retirement of non-nuclear carriers gets us out of high-pressure steam business, which has maintenance problems.

The second reason why the CVN–76 is so important this year is that it avoids an outyear affordability problem. If we buy it now, we don't have to worry about funding it in the future.

Mr. MCDADE. I was going to ask you about the impact of delaying. What kind of consequences would that present to your budget if you did have to go out to later years?

Ms. SLATKIN. There would be serious consequences to our budget. There would be a $4.2 billion problem in the future. If it is delayed, costs will grow.

Mr. MCDADE. If the total carrier force levels were to be reduced by one or two in the future, why would the construction of CVN–76 be necessary in the near term?

Admiral, would you comment on that?

Admiral LOPEZ. First of all, sir, our warfighting CINCs have a requirement not just for 12 carriers but for 15 in order to cover all of the three major theaters that we have 100 percent of the time. If we only have 12 carriers, which is our present base, we will be able to cover one theater 100 percent of the time, and two theaters two-thirds of the time.

If we decrease the numbers of carriers available, if we go down to 10, for instance, to cover two MRCs we could not cover our present requirements. Our present requirements, not only for carriers, but for our marines and amphibious forces, are necessary, we believe, to prevent crisis and ultimately prevent war.

NEW ATTACK SUBMARINE

Mr. MCDADE. The attack submarine was your number-two priority?

Ms. SLATKIN. It is very important to us, yes, sir.

Mr. MCDADE. The Center for Naval Analysis issued a Cost and Effectiveness Operational Analysis of the New Attack Submarine and alternative programs on September 24, 1993. The report stated, "No clear winner has emerged from the COEA. The cost and effectiveness analysis left us with four basic design concepts: SSN–688I Upgrade, SSN–21, NAS Baseline, and 5000-ton NAS."

The report further bounded the problem by comparing SSN–21 and the New Attack Submarine and came to two courses of action:

(A) Build SSN–21 class submarines and avoid the $4 to $5 billion R&D bill of a new design, if only a few submarines are going to be built.

(B) Select a new design submarine if we intend to enter serial production of more than 10 units.

If the Congress does not believe more than 10 submarines of a new design will be built, what is the justification for funding the new attack submarine R&D request in fiscal year 1995?

Ms. SLATKIN. May I go back for a minute to my opening remarks and talk for a moment on the utility of submarines for the future.

As we look at the new world, and as we look at our military requirements for the new world, we see our nuclear submarines playing a very important role in that new world by taking on new missions beyond those they do today.

One example is the mission of delivering SEALS. This will be a very important mission for the New Attack Submarine in the future. Indeed, about a month ago I visited the USS SCRANTON in Norfolk, and looked at how our SEALS are currently delivered. It is a fairly cumbersome process. Therefore, to meet some of the new mission requirements for the future, we believe that we need to develop the New Attack Submarine.

The delivery of SEALS is just one of its capabilities.

Second, the New Attack Submarine provides flexibility for the future. For example, we will be able to reconfigure the weapons load out as to how many Tomahawks and other systems we can deliver.

Frankly, ability to carry out the new missions requires the New Attack Submarine.

Mr. MCDADE. Let me invite you to amplify that response for the record. As you know, if there are new missions, we need to know more fully what they are.

[The information follows:]

With their unequalled stealth and endurance, attack submarines are capable of performing multiple missions. Broadly stated, these missions include: Protecting sea lanes for U.S. civilian and military transport. Offensive operations against enemy surface and submarine forces. Controlling forward operating areas by driving enemy offensive forces into defensive postures or blockading them in port. Projecting power ashore with cruise missiles or special forces. Covertly gathering intelligence.

At the height of the Cold War, these missions were dominated by operations against enemy submarine forces. The end of the Cold War has changed the security environment, and changed the relative importance of these traditional submarine missions. Operations in the littoral areas around third world countries are more likely to occur than a superpower naval confrontation, and these operations place a premium on acoustic and electromagnetic stealth, covert operations with special forces, mining, and strike warfare.

This new emphasis translates directly to desired capabilities for a New Attack Submarine. Relative to the SSN 688I, the New Attack Submarine will have significantly improved acoustic and electromagnetic stealth which will reduce its probability of detection. The electromagnetic stealth of the New Attack Submarine, coupled with its Advanced Mine Detection System will make it a formidable platform for mine warfare. Significant improvements over current capabilities are also planned in the areas of navigation, surveillance, special warfare and command and control. New Attack Submarine improvements are summarized below:

Acoustic Stealth.—SEAWOLF stealth in a smaller hull Propulsor: same quieting/less cost

Magnetic Stealth.—Fraction of 688I signature

RF/Visual Stealth.—Reduced cross section masts/sail. Visual/infrared/laser photonics system Automated Ship control Quiet ship control systems

Command & Control.—Integrated combat control, Navigation, Electronic Support Measures and radio systems Improved communications/connectivity Automated plots with large screen displays

Navigation.—Ring Laser Gyro—less topography effects Digital chart navigation Remote ahead profiling

Surveillance.—Improved non-acoustic sensors Visual/infrared/laser photonics system Unmanned Undersea Vehicle capable Improved High Frequency Mine Hunting Sonar

Special Warfare.—Dry-Deck Shelter, Advanced Seal Delivery System and Swimmer Delivery Vehicle capable 9 man lockout capability Outboard Stowage Reconfigureable Torpedo Room Air Defense Weapons Improved shock design Mission modules (during construction)

Space and weight allocations for future upgrades, as well as up front design allowances for future special purpose modules, will allow the New Attack Submarine to be modified through its life to adjust to changes in the threat.

Mr. McDADE. What advantage does the Navy derive from embarking on a new development program rather than staying with the production of the SEAWOLF or the Los Angeles Class submarine?

Ms. SLATKIN. Very simply, we have examined all the options. The Committee asked us to look at available options as part of the Submarine Industrial Base Report. We have looked at all the options.

What we get out of the New Attack Submarine is a more affordable submarine designed for future world-wide missions.

Mr. McDADE. I tend to come down where you do. But I have a bit of a problem with the budget. I think it is a half a billion in for the New Attack Submarine. I have a hard time justifying a half billion dollars under a design or prospective design for a sub that isn't much more than a concept yet.

How can you possibly justify $500 million in this year's budget, up from $200 million last year, for a total of $700 million in two years for a submarine design that isn't even matured yet?

Ms. SLATKIN. We are currently developing the design for the New Attack Submarine. Our plan is to start construction in fiscal year 1998, if the Congress approves our plan. Given the amount of time it takes to develop, design, and build the New Attack Submarine, we need to aggressively start the effort now. We need to put the design in place and start bringing the submarine together.

Mr. NCDADE, Thank you, Madam Secretary.

Thank you, Mr. Chairman.

SUBMARINE INDUSTRIAL BASE

Mr. MURTHA. Let me bring up a couple of things. As you know, Madam Secretary, I was up at Groton, Connecticut looking at that operation. Mr. McDade last year recommended a couple of other things we asked the Navy to look at, SSN–688 construction and refurbishing submarines and so forth. I can see after being up there that it is more complicated than I anticipated.

Also, in listening to the Navy when I was at Groton, I recognized it takes about 10 years to mature an engineer in that field, also seven years for even a welder to be able to do the work well.

I think you have to approach this from an industrial base angle. We are so short on money that even though I know you have to find a mission, obviously, for this submarine, for me it is all an industrial base issue. If it weren't for the industrial base perspective, I think we would have a hard time justifying it.

But to show you how tough it is, last year in my mark I took out three destroyers. And after explaining the situation to the Members of the subcommittee—all of them are here—we had a tough time getting them back in. They were not anxious to put those destroyers back in the mark.

So the money is going to even be worse this year or tighter this year.

This is certainly one of the systems that we are going to look at very carefully. But I admit from an industrial base standpoint, it is going to be very difficult to close this down and have the type of expertise and research capability we need.

I want to compliment Mr. Dicks for the airlift hearing that he took care of—a very difficult day with all the votes and everything. I certainly appreciate the time and the expertise and the effort that you put into it.

IDENTIFICATION FRIEND OR FOE (IFF)

Mr. DICKS. Thank you, Mr. Chairman.

I want to welcome Secretary Slatkin, and we are very pleased to have her over at the Navy working on these important issues, and let me go through a couple of things.

The recent loss of two Army helicopters in Iraq highlighted the need for reliable IFF systems. Has the Navy/Marine Corps experienced any problems with current IFF systems?

Ms. SLATKIN. Would you mind if I ask Admiral Lopez and General Krulak to respond to your question?

Mr. DICKS. That is fine.

Admiral LOPEZ. Let me answer that. In my recent experience working with the Bosnian situation, and when you are working programs that involve electronics and people in training, you have to stay on top of the situation, and I think the Navy/Marine Corps team, certainly the one I worked with, was on top of it.

We have not experienced any problems with our IFF systems that we use on a daily basis.

Mr. DICKS. What kind of system do you use?

Admiral LOPEZ. It is similar to what you read about in the Blackhawk, where you are electronically interrogated and the transponder, when it is cued, responds back. It responds back with a coded signal that can be read on the receiver of the plane or ship that interrogates the flying unit.

You can tell then that it is in fact a friendly unit.

Mr. DICKS. Since you are an expert in all this, normally, in a situation like what we just went through, do they normally query the aircraft or is that not done? Or does that depend on the rules of engagement?

Admiral LOPEZ. In a normal situation, you would interrogate the aircraft.

Mr. DICKS. Unless you thought the other plane had the capability to shoot you down. In other words, in this situation, if the helicopter had missiles, would you interrogate, or would you rely on the IFF?

Admiral LOPEZ. I can't really comment on the Iraq situation, Congressman.

Mr. DICKS. A hypothetical.

Admiral LOPEZ. Hypothetically, of course, you would always want to use this system to interrogate the other unit.

Mr. DICKS. The electronic system?

Admiral LOPEZ. That is right.

Mr. DICKS. How about verbally?

Admiral LOPEZ. Verbally, I think that depends on each command. If you have a system where you electronically interrogate and then you don't get the proper response, then, our procedure in Bosnia, for example, was to go down and take a look.

I think the AWACS also has the capability to verbally interrogate. You would expect, if it is an American aircraft, for them to be up on the guard frequency to respond. I think that is a command-and-control procedure that would be decided at that Command level.

Obviously that is an additional measure of safety that could be used.

Mr. DICKS. Does the Navy currently have any programs under development that will improve IFF capability or are programs envisioned in the future?

Admiral LOPEZ. Yes, sir. We are working on Combat ID and improvements on that, which will incorporate the use of GPS and newer systems.

Ms. SLATKIN. In fact, I think it is fair to say the Navy is the lead Service in the Department on air-to-air Combat ID development.

NAS MISSION CAPABILITY

Mr. DICKS. Let me go back to the submarine. There are a lot of ways we can get the SEALS to combat, and utilizing a $2 billion submarine, a new one, isn't necessarily the top of my priority list. There has got to be a better justification for a new attack submarine than just to get the SEALS there.

Ms. SLATKIN. Mr. Dicks, I was trying to explain some of the new mission capabilities that we wanted to add to the New Attack Submarine for the new world situation. Obviously there are a host of missions. I am going to ask Admiral Lopez to talk about that, and the existing submarine missions that they will continue to perform.

With regard to the SEAL mission capability for the New Attack Submarine, I was trying to illustrate a new capability.

Mr. DICKS. An additional capability, I understand. SEALS are very important.

Ms. SLATKIN. Yes sir, as you note, it is not the only justification.

Mr. DICKS. We want to preserve the industrial base, but the question in my mind is, do we need a new submarine? I have never seen a new submarine that was less expensive than the last one. So I am very skeptical about this notion that we are going to have this smaller, less expensive Seawolf.

Number two, who is the threat that requires us to have this newer, more capable sub. And why isn't the submarine we have got, even with its limitations, good enough under the circumstances, especially when you look at all the money that will be required to invest in R&D to build a new one, and especially given the fiscal constraints this defense budget faces.

We have got aircraft problems, and a number of other important things to do. If there is a less expensive way to maintain this industrial base by just modernizing our existing submarines, I think that ought to be given consideration.

Admiral LOPEZ. Let me address that first, sir. First of all, I think just because we do not know what the next threat will be, is a good reason to try and build a submarine to take into account the majority of threats.

I sometimes describe the New Attack Submarine as one-stop shopping. We need a submarine that is more maneuverable, one that can exercise in a mine warfare environment, one that carries a UUV, an unmanned underwater vehicle, to look for mines.

A submarine for special warfare, which we have already addressed, and one that would be able to launch Tomahawks. A submarine that could be modularized.

Mr. DICKS. The 688 cannot launch Tomahawks?

Admiral LOPEZ. Yes, sir, it can. But the New Attack Submarine has the capacity to be modularized and carry many more Tomahawks in a modular section. It could also be refitted and modularized to go back into open ocean warfare and carry Tridents, which is a capacity we do not have.

So you would not have to——

Mr. DICKS. I want to make sure I understand what you're saying. You are going to carry what?

Admiral LOPEZ. Tridents.

Mr. DICKS. Trident missiles, conventional?

Admiral LOPEZ. Yes, sir, it could be modularized. We are building it that way so that you could put in a section. Just "break" it, put a section in, and install the Trident missile system. That is not without cost, but it is being built that way so that you don't have to build another submarine from the ground up.

Mr. DICKS. What you are saying is, this could be a follow-on to the Trident submarine program, so that you are going to have an attack submarine you could use not only for an attack purpose, but also to be a conventional ballistic missile carrier?

Admiral LOPEZ. If it is needed, yes, sir.

Mr. DICKS. I raised this issue three years ago and all the admirals laughed me out of here saying that was the most ridiculous thing they ever heard of. I thought it was a fairly decent idea. I was a little bit chagrined about how little interest I got from the other side of the table. But I am interested to hear of your ideas. You can use the same submarine, smaller, fewer missiles, as a follow-on to the Trident?

Admiral LOPEZ. This same system that we are building, the New Attack Submarine, can be modularized. It will grow slightly and can carry the Trident missiles in the center, in a modularized section.

Mr. DICKS. How many could you carry?

Admiral LOPEZ. I will have to get back to you on the record for that.

[The information follows:]

At present, the New Attack Submarine is not designed to carry any D–5 missiles. However, if a mission specific module for ballistic missiles was designed for the New Attack Submarine, the number of D–5 missiles that could be placed in the module would be dependent on factors such as the allowable reduction in ship speed, cost and number of warheads desired on a single platform, and not on any inherent characteristic of the module or the original platform.

Mr. DICKS. You have 24 on the current Tridents now.

Admiral LOPEZ. The number that rings a bell is 18, but I would really rather get back to you. That is just from memory.

I would like to get back to you specifically for the record on that.

Mr. DICKS. That is a new wrinkle. That makes sense.

Admiral LOPEZ. Again, the threat you talked about, we do have a diesel threat out there, and you need a very quiet submarine to deal with it. This submarine will have the same quietness as the SSN–21. It can in fact operate in the Persian Gulf environment where there is a lot of noise, operate stealthily, and operate against a diesel submarine.

So it is, as I described, a multi-mission submarine. It covers the bases, and it is being very carefully designed.

Ms. SLATKIN. Our principal problem with the SSN–688 is the fact that it doesn't have the stealthiness or growth capability that we need for the future. That is the principal reason why we are looking at alternatives to the SSN–688. There are also industrial base reasons for the New Attack Submarine, and as the Chairman pointed out, those are very important. But from the military utility side of the SSN–688, for the future, compared to the New Attack Submarine, it is the stealth and growth potential as well as the lack of flexibility and modularity that caused us to move to the New Attack Submarine.

TRI-SERVICE STANDOFF ATTACK MISSILE

Mr. DICKS. Where do we stand on TSSAM for the Navy?

Ms. SLATKIN. The Navy, along with the Air Force, is developing the TSSAM. We have low-rate production starting in fiscal year 1998.

Mr. DICKS. Compare original Navy estimates to the new estimates.

Ms. SLATKIN. Our original estimate was for 2,250 units. Based on the changing threat and the changing size of the force, we are now looking at a procurement estimate of 525 missiles. It has come down considerably.

Mr. DICKS. Which aircraft were originally intended to carry the missile and which are now currently planned to do so?

Ms. SLATKIN. Originally the Navy planned to put the TSSAM on the A–6, which we are retiring, the A–12, which was cancelled, and the F/A–18. Now we are planning to put TSSAM on F/A–18, on the F/A–18 E/F, and the JAST aircraft.

Mr. DICKS. Is the Navy currently considering further quantity reductions or withdrawal from the program?

Ms. SLATKIN. Right now we are committed to the successful completion of TSSAM and we are not looking at any quantity reductions at this point.

Mr. DICKS. How strongly are you committed to it?

Ms. SLATKIN. We are committed to TSSAM as part of our standoff weapons inventory for the future.

Mr. DICKS. What alternative to TSSAM exists for the Navy?

Ms. SLATKIN. The Navy has two stand-off weapons that exist as alternatives, the SLAM weapon, a modification of a Harpoon; and of course Tomahawk, which is not launched from an airplane.

Mr. DICKS. What is the range on SLAM?

Ms. SLATKIN. Current range is 60 miles and we have an R&D effort to improve the range to ——— miles, it is comparable to TSSAM.

Mr. DICKS. What has gone wrong in recent Navy missile flight tests?

Ms. SLATKIN. We have had two recent Navy flight test failures on TSSAM. It is my sense after examining the situation, that these are quality problems, not design problems.

Mr. DICKS. Thank you very much.

Mr. MURTHA. Mr. Hefner.

Mr. HEFNER. I pass my time, Mr. Chairman.

Mr. MURTHA. Mr. Visclosky.

NEW ATTACK SUBMARINE

Mr. VISCLOSKY. Thank you, Mr. Chairman.

I am confused here. Admiral, you mentioned the New Attack Submarine is being carefully designed and your budget request is about half a billion for design this year. What is left to be designed here? Obviously we have pretty sophisticated——

Admiral LOPEZ. I will rephrase that to say carefully conceived. Our budget request reflects resources needed to design a New Attack Submarine that can best meet our mission requirements.

SEAWOLF SUBMARINE

Mr. VISCLOSKY. Another question following up on Mr. McDade's point about the budgetary constraints we are under, and that you might not receive the half billion dollars for R&D, one of the concerns I would have is that if we don't give you the full dollars, and we further defer the introduction of the New Attack Submarine, the Navy is going to be back here saying we need a fourth SEAWOLF, because we have an industrial base problem, and we ought to just keep making the SEAWOLF.

Is that an appropriate conclusion or assumption on my part?

Ms. SLATKIN. I am sorry. I did not hear the question.

Mr. VISCLOSKY. If there is a deferral, if we are talking about a half billion to design this concept, and there is a reduction in those dollars, and we extend that out, are we going to be back here a couple of years from now saying, to keep people in Rhode Island employed, we have to build a fourth SEAWOLF? Is the Navy going to ask for a fourth SEAWOLF?

Ms. SLATKIN. We are examining a lot of options.

Mr. VISCLOSKY. Is one option to push this so far in the future that a fourth SEAWOLF is a possibility?

Ms. SLATKIN. Our plan is to build a new attack submarine in fiscal year 1998 and bridge that gap with the SSN–23 in fiscal year 1996. If we don't get a New Attack Submarine for fiscal year 1998, I think we would have to go back and reexamine all of the options available to us in the submarine industrial base. The reason for this is that one of the options is obviously to shut down the nuclear submarine industrial base and then attempt to restart it in the future. That is a very risky option. We would have to go back and reexamine our options if the Congress does not approve the New Attack Submarine.

Mr. VISCLOSKY. If the diesels are such a threat in the littoral waters, should we be building diesel subs? Do we need a new nuclear attack submarine to take on these new diesels because these diesels are so good? Maybe we should just build a real good diesel submarine to go after these new good diesel subs that we have to attack.

Admiral LOPEZ. Obviously, diesels, when compared to nuclear submarines, are limited in range. We have not built them in my memory. Diesels in a warfighting structure, are thought of as coastal defense. Our intelligence tells us there is no threat that would cause us to build a diesel, at least in the near future.

For some countries, they certainly are a good system. They can be built more cheaply. But we have different requirements and you cannot send them off and have them not refuel for 15 years.

That would be my gut feeling on why you wouldn't want to go into a diesel program at this time. You may want to do that in the future, sir.

REFUELING OF SUBMARINES

Mr. VISCLOSKY. Talking about refueling, there is a lot of talk about industrial base. I assume you have got a couple of subs out there you are going to have to refuel.

Ms. SLATKIN. Our current plan is to refuel a few 688s, if we go down to the range of 45 to 55 nuclear attack submarines over the next two decades.

Mr. VISCLOSKY. Just a few?

Ms. SLATKIN. Our current plan is seven between fiscal year 1996 and fiscal year 2001.

Mr. VISCLOSKY. And that would entail a certain degree of monies to be expended, people to be employed, and a certain degree of skills as far as nuclear propulsion systems and the installation of fuel into the subs.

Ms. SLATKIN. Yes, sir.

Mr. VISCLOSKY. I would assume nuclear technology is one of the key industrial base issues you are concerned about.

Ms. SLATKIN. Absolutely.

Mr. VISCLOSKY. So you are going to do an average of more than one of those a year.

Ms. SLATKIN. Between FY 1996 and FY 2001, we plan to refuel seven SSN–688s. But remember, we are coming down to a force of about 45 to 55 nuclear submarines. So we are not refueling very many. We are planning to deactivate them at the appropriate time.

Mr. VISCLOSKY. When you deactivate them, you are going to cut them up, store the reactor, and that is it, I understand. There is not another option to mothball those, that is not physically possible to do, or is it a dollar amount that the Navy is concerned about?

Admiral LOPEZ. Candidly, we do not know how to, because of the science involved, the physics involved in mothballing a nuclear ship. That is why they are cut up.

Mr. VISCLOSKY. Could you take a couple of those that you are going to cut up and maybe cut open the front end and have those for SEALS? What I find interesting here is if you mention enough new uses for this sub, a strategic weapon with Tridents, the first thing you mentioned was, we are going to have greater capacity for

SEALS in those littoral areas. But diesels are great for littoral areas, and we need to put more SEALS in these. And yet we are going to cut a whole bunch of these up and just get rid of them, but we have got to build more.

We are refurbishing all the time. We had a briefing two days ago on the refurbishing. Couldn't we take out a portion there and just put space for extra SEALS in a couple of these that you are going to throw out, keep it going, instead of going through the expense of a whole new developmental program, a new sub?

Ms. SLATKIN. Our problem, if we don't go to a New Attack Submarine, fundamentally returns to what the Chairman said, and that is maintenance of the submarine industrial base. Refurbishing SSN–688s does not maintain our nuclear vendor base. The nuclear submarine industrial base is a high-technology industry that we need to maintain for the future.

Mr. VISCLOSKY. Where are you going to get your fuel if you are not maintaining that base? If you are going to refuel these, where are you going to buy it?

Ms. SLATKIN. I am sorry, may I take that for the record? I don't have the details with me to answer your question.

[The information follows:]

Babcock & Wilcox's Naval Nuclear Fuel Division (B&W–NNFD) is the Navy's sole remaining supplier of nuclear cores. The current core procurement plan provides minimum workload B&W–NNFD has identified to remain viable. Specifically, the FY 1993 procurement of cores for CVN 76, other existing backlog, and the FY 1995 CVN refueling core should provide adequate workload until New Attack Submarine procurements begin in FY 1998 with advanced funding for cores beginning in FY 1996. The Navy's plan to sustain the capability to build reactor cores after FY 1996 includes low rate procurement of both nuclear aircraft carrier and Trident submarine refueling cores and New Attack Submarine cores. Delaying New Attack Submarine procurement would jeopardize this plan.

The Navy is down to single vendors for most nuclear components. Refueling SSN 688s in lieu of maintaining the current New Attack Submarine procurement schedule provides little or no work for most of these vendors, since SSN 688 refueling cores have already been procured and most other reactor plant components are not replaced during refuelings.

Ms. SLATKIN. The nuclear submarine vendor base is important to us. The nuclear submarine designers, as the Chairman said, take 10 to 15 years to train. Without the New Attack Submarine, we will not have those skills in the future. Welders take at least seven years to train.

To summarize, there is a nuclear submarine industrial base. There is a nuclear submarine design base. There are also non-nuclear elements to the vendor base, which will go out of business without the New Attack Submarine.

SUBMARINE ENGAGEMENTS

Mr. VISCLOSKY. This is a New Attack Submarine. Would the primary mission of an attack submarine be to go out and get other subs?

I mean, I know this is a strategic weapon, and can also put SEALS into theater and everything else, but is it basically an attack submarine?

Let me ask you, since August of 1945, how many U.S. subs have attacked other submarines. Since 1945, August, which would include all of Korea, Vietnam, all contingencies, regional conflicts?

Admiral LOPEZ. I will have to get back to you, sir.

Mr. VISCLOSKY. What is your guess?

Admiral LOPEZ. I——

Mr. VISCLOSKY. I have been told by others in the Navy, never. Is that not true?

Admiral LOPEZ. I don't know if that is the case in Korea.

Mr. VISCLOSKY. Could you answer for the record?

[The information follows:]

Since the end of WW II, control of the undersea battlespace has remained critical. However, due to the nature of recent world crises, no anti-ship or anti-submarine attacks have been prosecuted by U.S. submarines in conflicts since August 1945. The missions and roles of our submarines though, have greatly expanded in the past 50 years. Most recently, two U.S. submarines launched cruise missiles against Iraq during DESERT STORM.

Both fast attack and ballistic missile submarines have provided effective deterrence against potential adversaries since August 1945. The ballistic missile submarine force has completed over 3100 strategic missile deterrent patrols. The attack submarine force has provided continuous deployments in every ocean of the world for decades providing invaluable intelligence through covert surveillance against potential aggressors.

By maintaining a viable submarine force, the U.S. Navy will continue to control the undersea battlespace and provide deterrence. We must sustain the lead in undersea warfare capability to both provide the preeminent warfighting weapon system and to precluded the need for prosecuting attacks for the foreseeable future.

RUSSIAN SUBMARINES

Mr. MURTHA. The Navy briefed me yesterday about the quietness of the Soviet submarines. The last information I had from Admiral Kelso was that SSN–688s were the best, there was no comparison with them.

And I also understood that we were well ahead of anybody in the technical details, including quietness. Well, the Russians always come to the aid of the Navy at the right time, and ———.

Mr. VISCLOSKY. But they didn't know they were there.

Mr. MURTHA. ———. So there does appear to be substantial improvement from a technical standpoint in the ——— Russian submarines.

Some of that came from when the Japanese transferred computerized tri-axial milling machines and some of it came from the Walker case, where information was given to them. But I have been surprised, frankly, at the technical improvements of the Russian submarines. But that is just something I add to fill in information for the subcommittee so that we have a full picture.

You were there at the briefing Mr. Visclosky. But it is still certainly something that is one of the most vulnerable programs, no question about it.

Mr. VISCLOSKY. I don't want to be protracted, but a couple of more points, the Chairman mentioned a ———. Let's take the assertion of the Navy at face value, ———.

Let's assume we didn't ——— and something happened that the Russians, knowing what was going on here, because their ships are so good——

Admiral LOPEZ. I think candidly for the same reasons that ———.

Mr. VISCLOSKY. Last point, the Chairman mentions the improvements. Could somebody tell me how many Akulas have been improved to date?

Ms. SLATKIN. I believe there are ———.

Mr. VISCLOSKY. What is the operational rate of the Akulas?

My recollection during the briefing is it is about ———.

Admiral LOPEZ. I don't think I understand the thrust of the question, sir.

Mr. DICKS. How much time are they using them?

Mr. VISCLOSKY. Yes.

Mr. DICKS. I think the issue is, if you get into a wartime situation, where they then use them on a full-time basis, if they hear you before you hear them, they kill you.

Mr. VISCLOSKY. I understand. I am looking at the proportion here. If what we were told several days ago, that you have got ——— Akulas out there today, and recognizing wartime is different, tomorrow is different, they have ——— Akulas next year, they have ——— Akulas the year after that, and they are operating at ——— that tells me at any one given point of time in the oceans of the world you have one out there.

We have a lot of improved 688s, our operational rates are much higher, and the Navy's contention is we need a New Attack Submarine for this threat.

Admiral LOPEZ. I think you will find the Russians have already begun to operate their submarines at basically about ——— operated during the Cold War.

Mr. MURTHA. I couldn't hear you, Admiral.

Admiral LOPEZ. I believe in an intelligence briefing you would find that the Russians are operating, at least the one I saw recently, at ——— in the Cold War. Additionally——

Mr. MURTHA. They were down and now they are back up?

Ms. SLATKIN. Yes, sir.

Admiral LOPEZ. That is correct, yes, sir.

Mr. VISCLOSKY. Mr. Chairman, I will yield on my time. I do have an interest in the sonobuoy question.

Mr. MURTHA. Mr. Visclosky and Mr. Livingston are working on the industrial base problem. Of course we are going to take their recommendations about what we need to do. Any information they need we hope you will get it to them very quickly.

Mr. Skeen.

BOMB FAILURE IN MARINE AIRCRAFT

Mr. SKEEN. Thank you, Mr. Chairman.

Welcome, Secretary Slatkin and Admiral Lopez, General Krulak.

Let's come up for a little air, now that we have had so much about submarine warfare. I would like to ask you about the recent news story about the bombing in Bosnia where we had Marine aircraft involved with the failure of three out of the four bombs.

What was the story there?

General KRULAK. Yes, sir. You are correct. We had one on target, two that were duds, and one that failed to come off the carriage.

The bomb has two safety precautions manufactured into the fuse. One engages as the bomb comes off the rack itself.

Mr. SKEEN. That starts the fuse?

General KRULAK. That is correct, sir. Another is an arming wire on the tail of the bomb that must be physically withdrawn in order for the fuse to function.

Mr. SKEEN. That is a safety measure?

General KRULAK. That is correct, sir. What happened was that the aircraft were up in the air for approximately six hours. We believe that vibration caused by going through the air severed the rear arming wire and, therefore when the bomb left the rack, the principal arming did in fact work, but the arming wire on the rear of the bomb was not disconnected.

Mr. SKEEN. You had one that was a dud too, didn't you, out of the three bombs?

General KRULAK. Two had the safety problem. One did not separate from the carriage of the aircraft itself.

Mr. MURTHA. Will the gentleman yield?

On the one that didn't separate, what happens when they go to land? Do they land with that bomb attached, I mean, what happens there?

General KRULAK. Yes, sir.

Mr. MURTHA. So they are able to land and that doesn't shake loose with an empty carriage?

Mr. SKEEN. It depends on the configuration.

General KRULAK. Normally they are not going to shake loose. There are a number of things you can do. But they certainly won't land if they perceived any damage. They have indicators in the aircraft itself as to what has transpired. The two that in fact detached from the aircraft were duds, and were duds because of the arming wire problem.

Mr. SKEEN. I was a little amazed about that because generally they are pretty reliable.

General KRULAK. Very reliable, sir.

V–22 AIRCRAFT PROGRAM

Mr. SKEEN. Give me some idea of what has happened in the V–22 program. I have been a long-time fan from the very beginning.

General KRULAK. I am a long-time fan of it also, sir. V–22 is progressing well. We are in the process, right now down at Quantico, with a war game, a littoral war game, red and blue teams, evaluating tactical situations, utilizing the V–22 and other aircraft to gain information to reach a position that we could then go through Ms. Slatkin to DAB and get their blessing and continue on with development.

We have two aircraft flying right now. We believe it is a winner. We have tremendous support from the Department of the Navy.

Ms. SLATKIN. We are committed to developing the V–22.

Mr. SKEEN. What is your budget impact this year on the V–22 program?

Ms. SLATKIN. We have about a half billion dollars in the fiscal year 1995 budget request.

Mr. SKEEN. So you have a substantial sum?

General KRULAK. Yes, sir.

Mr. SKEEN. But you are going through test evaluation under combat conditions?

General KRULAK. Yes, sir. We currently have two of them flying.

NEW ATTACK SUBMARINE

Mr. SKEEN. Let's go back to the submarine. We will go back in the water.

Admiral, when you talk about the modularized version of the attack submarine, you have to come back to the yards and actually split the submarine, modularize the unit and stick it back together. That is a very extensive program.

Before you can put the larger missile on there, how long would that process take to do the conversion?

Admiral LOPEZ. The other alternative is to build it from the ground up like that. I don't have an estimate for you, sir. I will get back to you on the record.

[The information follows:]

Although, the current New Attack Submarine (NSSN) program does not presently include the requirement or resources to add mission specific modules to the ship, top level studies have been conducted to investigate whether the NSSN design could be modified at a later date to allow the ship to be constructed with modules to enhance its capabilities to carry out selected missions. The studies have shown that the concepts are possible. Some examples of the mission specific modules considered include modules to conduct strike warfare with ballistic missiles, enhanced strike warfare with cruise missiles, enhanced mine laying operations, and enhanced special warfare operations.

Since the studies for the mission specific modules were concept feasibility studies only, the specifics of cost, schedule and performance tradeoffs were not included. However, as examples of flexibility, the concept studies looked at mission specific modules ranging in size from 13 to 120 feet long, displacing between 300 and 4000 tons, and costing between $50M and $800M to design and produce. The concept studies also indicated that the addition of larger size modules results in an attendant reduction in speed.

The NSSN will be designed with the flexibility to incorporate mission specific modules during new construction with a minimum of disruption to the existing design, however there is no effort ongoing to design any mission specific module. If the Department of Defense determines that a need exists to augment the NSSN with one of these modules for a follow-on hull then the effort to design the module and include it in a NSSN during new construction will be accomplished in the most efficient and affordable manner.

Mr. SKEEN. It is not a plug-in deal.

Admiral LOPEZ. It would not be easy, of course not. It would have to be in the drydock and installed. But that is how we build submarines now, using modules.

In talking with the submarine builders, my understanding is that it is not a difficult process, but I would expect a year or more.

Mr. SKEEN. I am interested in two elements, time and cost. Thank you very much.

Mr. DICKS. Would you yield?

The point is that you are trying to have one submarine that could be a follow-on to the attack submarine and a follow-on to the Trident submarine. Instead of having to have two submarines, two different designs, one submarine, with a common design, and if you build 10 for attack, the first Tridents are starting to get old, and we would need to replace them, we could then build some more of these same submarines but dedicated to be ballistic missile subs.

Ms. SLATKIN. Precisely.

Mr. SKEEN. I understand that.

I will tell my colleague, the thing I was concerned about, in your option base, what is the time element. You can build them that way, fine. But you either have to start from scratch, and depending on what the circumstances are, you have to go back in and remod it, correct?

Admiral LOPEZ. Yes, sir.

Mr. SKEEN. Thank you all very much.

Mr. MURTHA. I see in our audience we have Capt. Lou Harlow. I just want to tell Admiral Lopez that he likes it in Washington. He asked me specifically not to send him back to the field. He says he really likes being up here in Washington away from the fleet doing this administrative paperwork. There is nothing he enjoys better. He wants to be on the record that he wants to stay here in Washington, not too far away from the center of the activity and the power of this country.

Mr. Darden.

F/A–18 AIRCRAFT

Mr. DARDEN. Thank you, Mr. Chairman.

I want to welcome the panel here. I would like to point out to you, Mr. Chairman, that we are pleased to have Secretary Slatkin with us. I believe this is her first appearance before this subcommittee.

And, Mr. Chairman, Ms. Slatkin was a colleague of mine over on the Armed Services Committee for about eight years. And she is just as tough as any Marine down at Quantico. I think she is up to the job. We are absolutely delighted to have her in place over at the Pentagon.

And she and Mrs. Druyun who was here from the Air Force, we are looking to them to get some things accomplished that previously we haven't been able to do, because I think they have got a certain determination that I think has been lacking in the past. So I am looking forward to a lot out of them.

I want to just ask a couple of questions to the panel about aviation programs. First of all, Secretary Slatkin, I noted on page 12 in your statement about the F/A–18 that you do not anticipate in the foreseeable future any other Navy aircraft program.

I know you mentioned the F/A–18 E/F. And so I anticipate at least for the foreseeable future the Navy does not intend to go forward with another new aircraft program?

Ms. SLATKIN. Our current plan is to proceed with the F/A–18 E/F, and to develop the Joint Advanced Strike Technology program and to start building aircraft around the year 2010 and beyond.

Mr. DARDEN. We plan to do it in 2010, then realistically, based on past experience, we are looking at at least 2020 and beyond, wouldn't you say that would be——

Ms. SLATKIN. We have our program structured to field an aircraft around the year 2010.

JOINT ADVANCED STRIKE TECHNOLOGY PROGRAM

Mr. DARDEN. The JAST program, as I recall, is that about $2 billion?

Ms. SLATKIN. Over the current Future Years Defense Program, there is $2 billion for JAST.

As you know, the JAST program is to develop the technologies for follow-on aircraft for the Air Force, the Marine Corps and the Navy. It is clearly a multi-service program.

Mr. DARDEN. And you do anticipate that a follow-on aircraft will result out of JAST?

Ms. SLATKIN. It is our intent to develop at least one aircraft out of the JAST technology program.

Mr. DARDEN. By the year 2010?

Ms. SLATKIN. Beyond the year 2010, we will start introducing aircraft around the year 2010.

ACTIVE DUTY AIRLIFT FORCE

Mr. DARDEN. General Krulak, I understand you have recently completed a modernization program of your reserve airlift forces. What is the status of your active-duty airlift force? How old are these assets, and how do you plan to keep them flying?

General KRULAK. I believe you are aware of the dynamic component upgrade program for the current CH–46. This is not a service life-extension program. This is a program that is aimed at, one, ensuring safety by improving the drive shaft, the rotor head, things along this line, and two, increasing the availability of that current aircraft by lessening inspection time required. This effort will also increase the troop-hauling capability.

So from the standpoint of troop transport, the CH–46 is our current bird as we go to the V–22.

In the area of attack helicopters, AH–1W is currently being upgraded with night sights and the capability to designate targets in flight at night.

CH–53E is currently in good shape, and we feel very good about that capability.

The only issue, and it has been our issue for sometime since I have been in town and even before that—and that is the replacement for the aging CH–46. When I was a Second Lieutenant, the first aircraft I flew in was a CH–46. My son hopefully is going to be a Second Lieutenant in two years. The first one he is going to fly in is a CH–46. That is at least 32 years right now. We have got to do better than that.

That is why the commitment you hear for the V–22 is so strong.

Mr. DARDEN. What is the troop capacity of the CH–46?

General KRULAK. Twelve Marines.

Mr. DARDEN. And the V–22?

General KRULAK. Twenty-four Marines.

Mr. DARDEN. So obviously you anticipate doubling the capacity?

General KRULAK. Yes, sir.

V–22 AIRCRAFT

Mr. DARDEN. There was some discussion of the V–22 with Mr. Skeen earlier, but, when do you think we will be deploying a number of V–22s to make a difference.

I realize this is kind of like the aircraft we were asking about a while ago.

General KRULAK. The warfighting requirement is 312 aircraft. The procurement objective is about 425. We are not going to see that for quite some time.

The buy rate is currently being worked with the Navy. They are looking at about a billion dollars a year, once we start buying.

So you are talking about 20 years or beyond in order to get the total number that we need.

Mr. DARDEN. What is your request this year?

Ms. SLATKIN. About a half billion dollars for Engineering, and Manufacturing development efforts.

Mr. DARDEN. What do you anticipate will be the procurement cost for the first aircraft?

General KRULAK. The actual cost for one aircraft?

Mr. DARDEN. Right.

General KRULAK. I would say $40 million. Can I get back to you with details?

[The information follows:]

The FY 1995 President's Budget requests $496.9M of RDT&E funding to support V–22 development. The Department of the Navy has identified procurement funding as "Medium Lift Alternative", without assigning aircraft quantities, because the decision to buy V–22 has yet to be made. Medium Lift Alternative funds are $50M for FY 1996 long lead with first procurement in FY 1997 with $700M. This fall, the Defense Acquisition Board will make a production decision for the Marine Corps' V–22 and USSOCOM CV–22, including the rate and program size. That decision will determine the costs of production aircraft. Costs of any program's initial production aircraft are higher than program average due to production learning curve factors. Aircraft costs are expressed in terms of unit flyaway or total unit procurement costs, normally averaged over a period such as the FYDP or the entire program. Based upon the 1993 planning guidance from OSD, which included a $1B annual procurement cap for the years beyond the FYDP, the Naval Air Systems Command's current estimated MV–22 unit flyaway cost is $38M to $42M (FY 1994 $) for 425 MV–22 aircraft, and reflects the recently definitized Engineering and Manufacturing Development contract pricing. The Defense Acquisition Board may approve MV–22 procurement at a greater rate, which would lower unit costs.

General KRULAK. It will change depending on the order of buy, obviously. Right now we are talking about $1 billion once we get into the program. I can get you an answer.

Mr. DARDEN. If this is not contained in the DOD budget, would you submit for the record a proposed procurement schedule for the V–22?

I realize it might be hidden somewhere in the budget. I will confess I haven't read every page of it. But if you would be sure and provide that for the record, or just cite to me where it is in the DOD budget if it has already been done.

[The information follows:]

The budget includes funding for the Medium Lift Alternative (MLA) as follows:

Appropriation	Fiscal year—			
	1996	1997	1998	1999
APN ($M)	50	700	800	1,000

Since DoD has not approved a production program, quantities of aircraft have not been assigned.

P–3C PROGRAM

Mr. DARDEN. Also, I have some questions in some detail, Admiral Lopez, I am going to submit for the record about the P–3C. But could you just give us an overview of where you see that program going?

Admiral LOPEZ. The P–3 is a multimission platform. We are using it off Bosnia. It has been a mainstay in antisubmarine warfare and surface-to-surface surveillance.

We are upgrading it to make sure it is even better, particularly in the surface capacity. We are reviewing that as part of our budget now, as to how many we will need in the future.

What other specifics would you want, sir?

Mr. DARDEN. In the Navy's modernization plan I believe you anticipate that the SRP program will capture approximately 193 of the 247 P–3 aircraft. It would appear the MPA force would be losing 54 P–3Cs because they are beyond economic repair.

Admiral LOPEZ. I would anticipate in the future that our MPA force will come down in the same way that the remainder of our force will come down. We are coming down to the limits by 1999, 330 ships, maybe, which is a long, far cry from the 600-ship Navy. And the expectation will be that the P–3 aircraft will come down as well.

Mr. DARDEN. Mr. Chairman, I believe that is all I have. Thank you. I will submit some additional P–3 questions for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Darden and the answers thereto follow:]

MARITIME PATROL AIRCRAFT

Question. I note from the Secretary of the Navy's posture statement that the Navy's P–3 Maritime Patrol Aircraft aircraft program is being focused so that it remains applicable for Littoral Warfare. I would appreciate it if you could provide the Committee, today or for the record, a description of the role the P–3 is playing or has played in: (a) DESERT SHIELD/DESERT STORM; (b) Somalia, particularly with the rescue of the Rangers pinned down in Mogadishu; (c) Bosnia and the boycott of Serbia; and (d) in any other significant operations, such as, counter-narcotics activity.

Answer. The following are the highlights of the requested operations:

(a) Desert Shield/Desert Storm:

Maritime Patrol/Aircraft were the first "out of area" tactical forces to arrive in the Persian Gulf (P–3 aircraft were on station in theater within 72 hours of the Iraqi invasion of Kuwait).

Maritime Patrol Aircraft provided continuous surface surveillance coverage of the Red Sea, North Arabian Sea, and Persian Gulf from the time initial aircraft arrived in theater during DESERT SHIELD (August 1990) through the conclusion of hostilities in DESERT STORM (March 1991).

Maritime Patrol Aircraft provided the initial detection, identification and monitoring of over 23,000 surface contacts during Maritime Interception Force (MIF) operations conducted in the Persian Gulf, North Arabian Sea, Red Sea, Mediterranean Sea, and Indian Ocean. Typically, P–3s would initially detect, identify, and photograph a contact of interest. The aircraft would then provide continuous locating information to a dedicated allied ship which would intercept and board the vessel for inspection. On many occasions, P–3s on station provided locating information on specific contacts of interest for several days prior to the allied ships being able to intercept and board.

Maritime Patrol Aircraft contributed to over forty percent of the surface kills during the anti-surface warfare (ASUW) campaign. P–3s provided the initial detection, identification and targeting information of Iraqi ships from standoff ranges using the APS–137 Integrated Synthetic Aperture Radar (ISAR).

Maritime Patrol Aircraft supported all Iraqi surface combatant kills during the Battle of Bubiyan Island. P–3s provided all of the initial detection, identification and targeting information of the Iraqi ships during the battle.

Ten active P–3 squadrons and one reserve P–3 squadron participated in DESERT SHIELD and DESERT STORM operations. Active VP squadrons continue to support maritime surveillance operations in the Red Sea, Persian Gulf and Arabian Sea from Jeddah, Saudi Arabia and Masirah, Oman.

Navy lessons learned of DESERT SHIELD/DESERT STORM determined that:

The multi-mission capability of the P–3 provided timely surveillance for tracking merchant shipping.

P–3s provided continuous maritime surveillance coverage from the commencement of DESERT SHIELD through the conclusion of DESERT STORM.

The P–3 is a cost effective platform for maritime surveillance operations (detection, identification, monitoring, over-the-horizon targeting, and Command, Control, Communication and Intelligence (C3I)).

(b) Somalia:

Maritime Patrol Aircraft operations commenced in November 1992, immediately prior to the arrival of U.S. Marine Corps personnel. P–3 aircraft, operating from various locations in Kenya, provided standoff electro-optical surveillance in support of the United Nations' mission, Restore Hope. Operations included:

Surveillance of Somali beaches;

The location and subsequent destruction of armament hidden in the desert by the numerous Somali warlords;

Surveillance of Mogadishu to monitor warlord and clan activities;

Providing real time imagery and intelligence information to the local intelligence support element to support various operations, targeting data, battle damage assessment, the location and capture of Osman Atto, etc.;

Providing routing information for the ground relief convoy from the Mogadishu airport to the location of wounded Ranger personnel on October 3, 1993.

(c) Bosnia and the boycott of Serbia:

Navy Maritime Patrol Aircraft forces have participated in the U.S., NATO and U.N. operations in the Adriatic and Bosnia since July 1992. Maritime Patrol Aircraft support has included:

Providing around-the-clock surveillance of shipping activity in the Adriatic in support of embargo operations and monitoring Bosnian naval activity;

Providing real time intelligence and imagery collection of littoral, coastal and overland areas throughout Bosnia;

Providing daily armed Surface Unit Combat Air Patrol (SUCAP) coverage of Bosnian naval vessels for potential interdiction operations.

(d) Counter-Narcotics activity:

P–3 support of counter-narcotics activity has involved the covert interception and long range tracking of aircraft and sea-going vessels suspected of international transportation of narcotics. P–3 counter-narcotics operations have occurred throughout the world, although the largest concentration of support has been in the Caribbean and Central/South America. P–3 support of the counter-narcotics effort is expected to continue indefinitely through host nation support.

Question. Are there any other aircraft that possess the capability or flexibility in operations as the P–3C?

Answer. Given its long range, high endurance, rapid mobility, and the ability to accommodate diverse mission avionics systems through its capacity for payload growth, the inherent flexibility of the P–3C is unique among naval aircraft.

Question. Do you envision an expanded role for the P–3C in future regional operations, such as those mentioned?

Answer. The P–3 is a multi-mission platform that provides force multiplying capability. The P–3 has demonstrated the capability to provide not only maritime surveillance, but also littoral and overland stand-off surveillance. MPA aircraft have always played a role in the previously mentioned areas, the P–3 capability to perform in these other roles is being expanded. The P–3 Anti-Surface Warfare (ASUW) Improvement Program (AIP) will procure flight proven systems that will further enhance the P–3's ability to perform in the littoral warfighting environment.

Question. In the Navy's MPA Modernization Plan, you anticipate that the Sustained Readiness Program will capture approximately 193 of the 247 P–3C aircraft. It would appear that the MPA force will be losing 54 P–3C because they are beyond economical repair. How will you maintain the MPA force? The Airframe Conversion Program (ACP) was cited as one option in the MPA Plan. Is ACP a viable option and should a study to examine its potential be performed to support your POM decisions?

Answer. The goal of the SRP program is to capture all 247 P–3C aircraft through this cost effective material condition upgrade. It is recognized, however, that up to 22% of the P–3C force (54 aircraft) may cost more to induct into SRP than will a nominal aircraft. The Navy has not yet determined the optimum plan for maintaining the required P–3C MPA force, but alternatives include: identifying the requisite funding to ensure all aircraft will be capable of induction into SRP; reduce the MPA force requirement commensurate with the number of aircraft which will not be inducted into SRP; procure a new production aircraft to replace those aircraft which will be retired; or initiate the Airframe Conversion Program to replace those aircraft which will be retired. Studies to examine alternatives for maintaining an optimum P–3C MPA force have not been initiated at this time.

[CLERK'S NOTE.—End of questions submitted by Mr. Darden:]

Mr. MURTHA. Mr. Young.

Mr. YOUNG. Thank you.

I want to thank the Secretary and General Krulak for their responses about the V–22.

If there are any problems along the way, we would sure like to know about them, because we are committed to having that aircraft available for the Marine Corps.

Ms. SLATKIN. I appreciate that.

SHIP SELF-DEFENSE PROGRAM

Mr. YOUNG. I want to ask about the ship self-defense program. This committee has been interested in that program a long time, and that was emphasized when we lost the sailors on the attack on the USS STARK.

I understand the news is getting better. Could you just tell us something about where we are?

Ms. SLATKIN. I would be happy to, Mr. Young. Admiral Lopez and I recently chaired a review of this important program. As you know, this Committee has been at the forefront of the Congress in insisting that the Navy provide a Cooperative Engagement Capability to, "tie" our ships and aircraft together, so that we are able to prevent any incoming missiles or aircraft from destroying or damaging our ships.

As I said, we recently held a review. As a result, we have restructured this program. We will be able to meet an initial operating capability in 1996, as this Committee has asked us to do, among networking ships. We have a plan underway to network aircraft along with the ships. We will be able, after testing, to put that in place in 1997.

We are quite pleased with the progress that we have made and the support that you have given us on this program.

Mr. YOUNG. That is good news. We are glad to hear that.

FUNDING FOR P–3 PROGRAM

Mr. YOUNG. On the question of P–3s that Mr. Darden began to ask about, I want to talk about the funding profile, because the committee only recommended $11.3 million of the $214.3 that was requested last year, although the conference committee provided $118.3, which was still a substantial reduction to your request.

My question is, how has that affected the schedule and/or the readiness to the fleet of the P–3 program?

Admiral LOPEZ. I think for this year and next we found the required aircraft. We were able to hold what we need in the way of putting them in particularly the Mediterranean, Far East, and off Somalia. We operate some P–3s, as you know, down in the Red Sea. I am comfortable we have what we need.

We are examining the P–3 program to see what our needs will be in the future, quite simply because the rest of the Navy is coming down in force structure.

Mr. YOUNG. Your request for 1995 is $104.3 million, substantially less than the request last year. Does the answer you just gave me apply to that, my question as to why your request was——

Admiral LOPEZ. Yes, sir. We did bring the squadron numbers down, that is correct.

Mr. YOUNG. And that was the only reason?

Admiral LOPEZ. I don't believe that the sonobuoys are included in that figure. I don't know of another reason that our request for money would be less, other than the numbers of planes coming down.

There is less need.

Mr. YOUNG. I have a number of other questions on this that I will submit for the record, but I want to coordinate with Mr. Darden rather than have you respond twice.

Mr. Chairman, I have other questions on other subjects that are fairly detailed. Let me submit them for the record and ask if you would respond to them for the committee.

Thank you very much.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

AUXILIARY SHIPS

Question. Ms. Slatkin, welcome to the committee for your first appearance. We have asked almost every witness to appear before our committee about our ability to fight two Major Regional Conflicts. What we have heard from the war fighters is alarming to say the least. For the first time since the hollow force we had in the late 70's, we are again hearing disturbing descriptions like war stoppers, and risk that is barely acceptable. In one of those discussions, Admiral Larson responded to a question about the lack of Navy ships we will have and specifically referred to the situation with auxiliary ships as being the "achilles heel" of his ability to go to war. The day he testified (March 22, 1994) I wrote you a letter asking you to look into this matter by talking to the CINCs about their auxiliary ship needs. Have you done that?

Answer. We have conferred with the CINCs about their auxiliary ship needs and specifically discussed this issue with Admiral Larson. Admiral Larson's comments on this issue were meant to convey his view of the critical role these ships play in maritime strategy, and not to comment on their number. There is no critical shortfall of AO/T–AO class ships. In fact, in the Pacific Command Area of Responsibility, the number of AO/T–AOs currently assigned actually exceeds the number required.

When construction began on T–AO 191 and T–AO 192, our projected requirement for this class was 23 ships. The 23 ship requirement was to be fulfilled by five AO 177 Class and 18 T–AO 187 Class ships. Today, careful analysis of our AO and T–AO requirement calls for only a total of 17 of these ships to support our current warfighting requirements. The two T–AOs in Tampa are therefore in excess to our needs and we have issued a Request for Proposal for preservation so that they may be placed in an inactive reserve status.

AUXILIARY INDUSTRIAL BASE

Question. You devote an important segment of your testimony to the importance of maintaining the industrial base for submarines and aircraft carriers. You don't address the industrial base for auxiliary ships. We have testimony before the committee that we don't even need the next Seawolf submarine, and testimony from the CINCs that auxiliary ships will be the "achilles heel". Are you concerned about the auxiliary industrial base?

Answer. The Navy is concerned about the auxiliary ship industrial base, as it is with all suppliers. However, our auxiliary ship industrial base needs can currently be fulfilled by any of the shipyards currently building surface ships. Several yards which formerly constructed Naval auxiliaries could also potentially re-enter this market should an extreme need arise.

TAO PROGRAM

Question. It is my understanding that Tampa Ship and Trinity Marine have made a proposal to the Department of Justice for a contract resolution of both the two T–AOs and the T–AGOS 23. The Justice Department tells Tampa Ship that they are waiting to see you and Mr. Honigman to discuss this proposal but that you have been too busy to see them. My concern has is the uncompleted ships. What you do about either of the ship yards is the Navy's business. Is the Navy considering any options for completion of these ships?

Answer. The Navy is not considering options to complete the two T–AOs because they are currently not needed. Construction of the two T–AOs was terminated last fall. They will be preserved and placed into the reserve fleet. The Navy currently intends to complete the procurement of the T–AGOS 23. The current contract with Tampa Ship for this ship is now before the Bankruptcy Court. I understand that exploratory discussions regarding alternatives for completion of the T–AGOS 23 have been held. The Navy General Counsel and I expect to be apprised of meaningful proposals as appropriate.

P–3 MODIFICATION PROGRAM

Question. Last year the Navy requested $214.3 million for P–3 modifications which included funding for two significant modernization programs; the Sustained Readiness Program (SRP) and the Anti-Surface Warfare Improvement Program (AIP). Could you briefly describe the purpose and importance of these modernization efforts?

Answer. The Sustained Readiness Program (SRP) is an aircraft material condition upgrade program which will extend the operational service life of P–3C aircraft to its full fatigue life by preemptively replacing and refurbishing airframe components and systems identified as having impact on future aircraft availability. Availability is directly related to readiness, safety, corrosion, and unsupportability. If left unchecked, these problem areas will result in removal of aircraft from the operational inventory. The SRP is a critical component to the overall Maritime Patrol Aircraft force management strategy to satisfy the total force level warfighting requirement by extending the aircraft service life from 30 to 38 years.

The Anti-Surface Warfare Improvement Program (AIP) is predicated on urgent fleet Commanders-in-Chief requirements to rapidly increase the P–3's ability to perform both as an autonomous quick-reaction platform, and as an integral member of battle group operations. AIP will provide a significant increase in the current P–3's ability to perform Anti-Surface Warfare, Over-the-Horizon Targeting and Command, Control, Communications, and Intelligence. The resulting weapon system will be effective against emerging third world surface, subsurface, and air threats with simultaneous multi-mission capabilities in littoral regions.

Question. This committee recommended only $11.3 million of the $214.3 million request. The Conference Committee ultimately provided $118.3 million which was a substantial reduction to your request. What was the impact of this reduction in both cost, schedule and readiness to the fleet?

Answer. The impact of the P–3C modification funding reduction was to defer procurement of 12 of 13 AIP kits, as well as the associated logistics, trainers, and Follow-on Test and Evaluation. There was no impact on the non-recurring effort related to prototype delivery. The cost impact of this deferral alone has not been estimated because the Department ultimately made additional changes as reflected in the President's Budget. There was no impact to the Sustained Readiness Program.

Question. Is your FY 1995 budget request of $104.3 million substantially lower than last year's estimate for FY 1995 and if so why?

Answer. The FY 1995 funding estimate contained in the FY 1994 Congressional Budget Submission was $219.2 million. The current funding profile of $104.3 million in the FY 1995 President's Budget reflects a decision to delete funding for Anti-Surface Warfare Improvement Program until commencement of Follow-on Test and Evaluation in FY 1996. This reduction is consistent with FY 1994 Congressional intent.

Question. What amount of funding did the Navy originally request from the Secretary of Defense for P–3 modification?

Answer. The original FY 1995 Navy Budget Submission for P–3 modification was $202.6 million. However, this submission was made prior to the Congressional adjustments to the FY 1994 Budget Request.

Question. What is the basis for the OSD reduction?

Answer. Congressional language in the FY 1994 Appropriations Conference Report stated "the ASUW improvement program may be initiated in fiscal year 1994, but funds for 12 of 13 proposed systems are deleted until program testing has commenced as proposed by the Senate". As such, FY 1995 P–3C Anti-Surface Warfare Improvement Program funding was deferred until FY 1996, when Navy Follow-on Test and Evaluation is scheduled.

Question. One of the reasons cited by Congress for recommending the FY 1994 Anti-Surface Warfare Improvement Program reduction from $141 million to $59 million was the high degree of concurrency with this program. Could you address the concurrency with the committee?

Answer. FY 1994 Congressional funding reductions cited concern that the program involved a significant amount of systems integration and software development and therefore, had too much concurrency between testing and procurement. The P–3C AIP consists of Commercial Off-the-Shelf/Non-Developmental Items (COTS/NDI) which have been previously demonstrated in an aircraft environment. Installation of these systems will be primarily in a standalone mode which greatly minimizes technical and schedule risk. This approach eliminates the need for research and development which normally precedes the production phase. Systems integration and software modifications are limited to the display and control interfaces and built-in-test systems only and are not considered significant. Based on the Congressional guidance, the procurement of AIP modifications will only occur after successful completion of FOT&E.

The Navy proposed an independent RDT&E software P3I effort that would have provided for man/machine interface improvements for Anti-Surface Warfare Improvement Program. Congress deleted the effort in FY 1994 and Navy subsequently deleted this RDT&E program from the FY 1995 budget request for affordability reasons.

Question. How much money is being requested in FY 1995 for contractor avionics subsystems testing and what is the basis for your request?

Answer. There is no money requested in the FY 1995 President's Budget for contractor avionics subsystems testing. The FY 1994 funding should be adequate to cover any required contractor avionics subsystems testing.

Question. The P–3 Anti-Surface Warfare Improvement Program systems procurement profile shows one system being procured in FY 1994, none in FY 1995 and then a resumption of systems procurement at eight in FY 1996. It is my understanding that the Navy had a requirement for 13 Anti-Surface Warfare Improvement Program systems in FY 1994. Why is the Navy requesting no systems procurement in FY 1995?

Answer. FY 1995 P–3C AIP funding was deferred until FY 1996, when Navy Follow-on Test and Evaluation is scheduled. This is consistent with the FY 1994 Congressional direction.

Question. Has the requirement gone away?

Answer. The requirement for the P–3C Anti-Surface Warfare Improvement Program has not gone away. It has been revalidated by the Fleet Commanders-in-Chief to meet required world-wide peacetime surveillance.

Question. What is the anticipated cost increase to the Navy by stretching out the procurement of Anti-Surface Warfare Improvement Program in FY 1994 and FY 1995?

Answer. The cost impact of the Anti-Surface Warfare Improvement Program stretch out alone has not been estimated because the Department ultimately made additional changes as reflected in the President's budget request. These changes included the two-year delay in procurement, a reduction in the procurement rate and quantity in Future Year Defense Program.

Question. When does the Navy anticipate having AIP capability on all P–3 aircraft under this revised schedule?

Answer. The Navy is currently investigating options for fulfilling the requirement for Anti-Surface Warfare Improvement Program in our FY 1996 budget development process.

V–22 PROGRAM

Question. This Committee has had an interest in the V–22 program since its inception. We have fought tooth and nail to provide the Marine Corps with a replacement for their medium lift. Now we are getting word that this program is slipping once again. Is this true and what will it cost if it is?

Answer. The Department of the Navy is in the process of developing its FY 1996 Budget. Though funding for every Department of the Navy program is being reviewed, no final decisions have yet been made. Therefore, it would be premature to comment on such deliberations at this time.

UH–1N HELICOPTER FLEET

Question. The Committee is aware that the Marine Corps is nearing completion of its planned procurement of AH–1W Super Cobra attack helicopters. With the UH–1N Iroquois utility helicopters in high demand for the Marines' forward presence missions, but with the UH–1N out of production now for several years, what are the plans to modernize the UH–1N fleet?

Answer. There are several approved modernization/upgrades ongoing to improve the UH–1N including communications, navigation, night/reduced visibility operations, and electronic warfare upgrades. The main drive shaft replacement program will eliminate a safety problem. Finally, our FY 1995 Budget request includes initiation of a UH–1N Service Life Extension Program (SLEP).

Question. What is the total number of UH–1N helicopters that are operated by the U.S. Marine Corps?

Answer. There are 111 UH–1N aircraft operated by the USMC.

Question. How many of these are active duty aircraft and how many are used by the Marine Corps Reserve?

Anwer. 85 UH–1Ns are operational in the active component fleet. 26 UH–1Ns are in the reserve component.

Question. Does the U.S. Marine Corps maintain the same aircraft configuration for both the active duty Marine Corps and the Marine Corps Reserve?

Answer. Yes. There are no deliberate differences in aircraft configuration.

Question. How many UH–1N aircraft used by the active duty Marine Corps have been equipped to carry navigation thermal imaging systems (AN/AAQ–22)?

Answer. Two aircraft have been configured to carry the AN/AAQ–22 as of May 4, 1994. Funds have been obligated to provision 85 aircraft and for procurement of 20 additional hardware units. These units will be used on a rotatable basis.

Question. How may UH–1N aircraft used by the Marine Corps Reserve have been equipped to carry navigation thermal imaging systems?

Answer. To date, none of the 26 reserve aircraft have been modified to carry the AN/AAQ–22.

Question. How many navigation thermal systems have actually been acquired?

Answer. To date, a total of 22 AN/AAQ–22 systems have been acquired by the Marine Corps.

Question. What are the primary contributions of the navigation thermal imaging system to flight safety?

Answer. The AN/AAQ–22 provides the capability to visually identify hazards to navigation, navigation waypoints and targets at ranges far exceeding the aided or unaided eye at night and during periods of reduced visibility.

Question. Given the importance of these thermal imaging systems to flight safety and mission effectiveness, what is your required ratio of systems-to-aircraft?

Answer. The desired ratio of systems to aircraft is 72 AN/AAQ–22 systems to 105 aircraft. We have acquired only 22 systems due to affordability concerns.

[CLERK'S NOTE.—End of questions submitted by Mr. Young:]

Mr. MURTHA. Mr. Livingston.

NAVY UPPER TIER PROGRAM

Mr. LIVINGSTON. Thank you, Mr. Chairman.

I have a number of other questions for the record as well. I would like to hit on two of them, if I may.

Madam Secretary, one thing, your formal statement omits any discussion about the Navy upper-tier program for theater defense. I understand you have a recently elevated this issue to the OSD level, and I hope that your effort will get the Navy team, the right Navy team a fair hearing at the highest levels of OSD.

I have been following this program for a long time. I know that the Navy upper-tier program is already flying hardware, but without the adequate protection from your office, other less-developed projects in other services are frankly going to eliminate this project from the scene.

This is a cost-effective program compared to others, since most of the development costs are already in the program. And with the right funding I believe we can get it operational in this century, with a mobile sea base system, frankly we won't be able to put ourselves in a position like we perhaps are in Korea, where we have been trying to get our Patriots in there. We will just be able to park that system off any country and be ready to respond if they want to throw up missiles. I think it is really our most capable line of defense short of a space-based system.

So I hope that you are committed in getting this capability deployed.

Ms. SLATKIN. Mr. Livingston, as you may know, Admiral Lopez and I have conducted several reviews of the Navy sea-based system, and the arguments you have described are exactly those that we have been using. We have asked that this be reviewed by the Office of the Secretary of Defense, and we are going to be strong advocates of it.

SPECIAL OPERATIONS PATROL CRAFT

Mr. LIVINGSTON. Great. I know they kind of gave it short shrift a few months back. I hope you will do everything you can to make sure they give it another, more thorough review.

Another issue that you have been working on, Madam Secretary, is the 170-foot Special Operations patrol craft. I appreciate your efforts. We have a tough situation, though. Apparently it is taking a very long time to pay claims, and I am told everyone agrees they should pay, on this matter. But unfortunately, it has been said that Congress put the money in the wrong account, for some reason, even though we intended the money to be paid, and we may be searching for a way to find the right color of money, which is a new term for me.

My office has been told that it would be resolved two weeks from the 15th of April, but couldn't we accelerate that?

I am concerned that even that date will slip. So is it possible that we can resolve this more quickly?

Ms. SLATKIN. Let me report to you, Mr. Livingston, we are today actively looking at ways to solve the problem that you describe. The issue involves the color of money. R&D money was appropriated rather than what we normally need, which is procurement money, to resolve this claim. We are working hard to find a way to quickly make an interim payment. And, we are keeping your office advised.

Mr. LIVINGSTON. Thank you very, very much. I appreciate it. We look forward to working with you.

Mr. Chairman, I yield back. I have a number of questions for the record, if I may.

[CLERK'S NOTE.—Questions submitted by Mr. Livingston and the answers thereto follow:]

SEALIFT PROGRAM

Question. Ms. Secretary, earlier this year there were press reports in defense journals about using sealift funds to pay Navy DBOF bills. Is this being considered in any form?

Answer. No sealift funds appropriated to the National Defense Sealift Fund (NDSF) are being used to pay Navy DBOF bills. Sufficient funds are programmed to acquire 19 Large Medium Speed Roll-on/Roll-off (LMSR) ships for delivery by the end of FY 2001.

Question. Is it being considered as part of the omnibus reprogramming that DoD may send to Congress soon?

Answer. The Department of Defense has requested that the $1.2B appropriated to the NDSF specifically for CVN–76 be reprogrammed for that purpose when authorized by Congress. These funds are not required to support the approved acquisition profile for the 19 LMSRs.

Question. Does the Navy have any shortfalls in their DBOF accounts? If so, how much? Why?

Answer. There are no shortfalls in the Navy DBOF budget for sealift.

Question. I have also heard that concepts have been discussed, possibly among some members of Congress, that make the assertion that in terms of sealift all we really have to do is add a few ships, maybe 3 to 5, to the existing Marine Corps prepositioning forces and that will give us the heavy division we need for future operations.

I can support giving the Marine Corps' prepositioned forces a heavy division capability (i.e. M1 tanks). But, as I understand it the reason for the sealift program that was developed by the Mobility Requirements Study (and that we are funding now) is that we need all 19 ships to provide us with sustainability in our striking forces. Can you comment?

Answer. The Mobility Requirements Study (MRS) included the capabilities of the existing Marine Corps Maritime Prepositioning Forces (MPF) in the baseline force used in the analysis. The MRS identified an additional requirement to deliver a heavy Army Brigade, within the first two weeks, to be reinforced with an additional two heavy divisions from CONUS within 30 days. This led to the Sealift program requirement for 19 large, medium speed, roll-on/roll-off ships. Eight ships are required to provide the prepositioning capability for the heavy Army Brigade and the 11 ships, plus the existing eight Fast Sealift ships, provide the reinforcement from CONUS.

The combined force equivalent or combat capability resident in all 13 ships in the Marine Corps' MPF program approximates that of a single heavy ground combat division. Each Maritime Preposition Squadron (MPS) provides the equivalency of a ground combat brigade with sustainment for 30 days. And, each ship and squadron is configured to provide for a range of functions or missions from humanitarian operations to sustained ground combat. The Marine Corps' MPF is not a substitute for or redundant capability when overlayed on top of the Army's sealift program. Each Marine Corps Maritime Preposition Squadron (MPS) provides for forward deployed ground combat, aviation, combat service support along with command and control capabilities that are fundamental to a task organized Marine Air-Ground Task Force (MAGTF). A portion of the Army's program involves the rapid embarkation of heavy forces from CONUS, with sustainment, to reinforce early entry forces in a crisis. This too is an important enhancement within the National Military Strategy.

Question. When do you expect to award the first options on the new sealift construction contracts? And, how many options will be awarded to each shipyard in the first option award?

Answer. The Navy has contracts for one sealift ship with options for five additional ships with Avondale Shipyards and NASSCO. Options will be exercised in accordance with the terms of the contract. The first option exercised is for two ships to each yard. The Navy anticipates exercising the first option at Avondale Shipyards late this fiscal year. Option exercise dates for NASSCO are being negotiated to account for the delay incurred due to the unsuccessful protest by Newport News Shipbuilding and Drydock Company and Ingalls Shipyard.

LX/LPD–17 PROGRAM

Question. The five year plan shows the first LX in FY 1996 and a total of 5 over FY 1995–1999. Last year the Navy testified that the total planned buy for this ship is 12. Has this changed? If so, why?

Answer. No, the total planned buy for the LPD–17 class is 12 ships.

Question. I understand there is a shortage of amphibious vehicle lift capacity. Is this true? Explain.

Answer. Yes, as ships of the amphibious force are decommissioned, there will be a temporary shortage of vehicle lift in the near term. Once the LPD–17 class completes delivery, the shortage will be eliminated.

Question. How does the LX address this capacity issue?

Answer. The 12 ship LPD–17 class was sized to address block obsolescence in the amphibious force. When the last LPD–17 class ship delivers, there will be 2.5 Marine Expeditionary Brigades (MEBs) worth of vehicle lift in the amphibious force.

Question. Last year this Subcommittee mandated increased ship self-defense capability for new amphibious vessels. What is the status of selecting the approach to meet this requirement?

Answer. The current ship self-defense baseline of the LPD–17 contains the mandated increased capability. Specifically, the ship is planned with Evolved Sea Sparrow Missile (ESSM), upgraded Close-In Weapons System (CIWS), SPS–48E radar, Cooperative Engagement Capability (CEC), SLQ–32(V)3 and an integrated Ship Self Defense System (SSDS).

Question. How will an LX self-defense capability and cost compare with other ships?

Answer. The LPD–17 self-defense capability will be equal to or greater than any other surface combatant except AEGIS. The cost is commensurate with ships possessing like systems.

Question. Last year's conference report directed that the general reduction taken in ship contract design/live fire T&E *not* be applied to the LX ship. Is this direction being followed? Explain.

Answer. Yes, the direction was followed. The LPD–17 ship contract design/live fire T&E line was not reduced.

MOBILITY REQUIREMENTS STUDY

Question. Is the MRS undergoing another review. If so, why?

Answer. Yes, the MRS is undergoing a Bottom-Up Review Update. This review is being done because of significant changes in mobility assumptions which have occurred since Volume I of MRS was published in January 1992. Most of these changes have resulted from the comprehensive review of U.S. defense strategy, force structure, and modernization conducted in the DoD Bottom-Up Review. The Navy is continuing an aggressive sealift acquisition program in response to the recommendations in the original MRS.

Question. What is the status of this review? When will it be completed?

Answer. Work on the MRS Bottom-Up Review Update began in December 1993. Currently, the capability of various intertheater mobility programs, including airlift, sealift and prepositioning, are being analyzed versus the force closure requirements in the Defense Planning Guidance Illustrative Scenarios for 2001. An integrated mobility plan which best meets force closure requirements at least cost will be developed from this analysis. This review is to be submitted to the Secretary of Defense in November 1994.

Question. What segments of the Navy, DoD, and other services and agencies are involved?

Answer. The MRS Bottom-Up Review Update is being conducted by the Joint Staff in collaboration with DoD's Office of Program Analysis and Evaluation, the Defense Intelligence Agency, USTRANSCOM, the Military Departments, the Services, the combatants commands, and other DoD offices. The Deputy Chief of Naval Operations (Logistics) is coordinating the Navy work on the review with support from the Military Sealift Command and other offices of the Chief of Naval Operation's staff.

Question. Does the Bottom-Up Review make any findings or conclusions about the number of private shipyards needed to sustain the shipbuilding industrial base?

Answer. The Bottom-Up Review did not address the total number of private shipyards needed to sustain the shipbuilding industrial base. However, the Bottom-Up Review did conclude that sustaining two nuclear capable shipbuilding shipyards would mitigate the risk to the industrial base.

Question. What about public yards?

Answer. The Bottom-Up Review did not address the number of public shipyards needed to sustain the ship repair industrial base. The Base Realignment and Closure process will address this issue in 1995.

NAVAL BIODYNAMICS LAB

Question. In the last two fiscal years, the Defense Appropriations Subcommittees have provided additional funding above the budget request to maintain the level of effort at this Lab and for the establishment of an Advanced Marine Technology Center. Funds from FY 1993 have still not been spent. Provide a detailed status of the FY 1993 and FY 1994 funds appropriated for the Lab.

Answer. Status of FY 1993 and FY 1994 Funds: ($000)

a. Funds appropriated:
  (1) Fiscal Year 1993
    PE 0603216N
      Budget: $2,419
      Congressional addition: $6,000
      Total PE: $8,419
    PE 0603706N
      Budget: $350
      Congressional addition: $0
      Total PE: $350
  (2) Fiscal Year 1994
    PE 0603216N
      Budget: $1,770
      Congressional addition: $2,000
      Total PE: $3,770
    PE 0603706N
      Budget: $322
      Congressional addition: $1,000
      Total PE: $1,322
b. Funds authorized to Lab:
  (1) Fiscal Year 1993
    PE 0603216N: $3,098
    PE 0603706N: $342
  (2) Fiscal Year 1994
    PE 0603216N: $3,767
    PE 0603706N: $425

c. Explanation of difference between budget and amount authorized to Lab:
  (1) Fiscal Year 1993
    PE 0603216N
      Budget: $8,419; Auth Lab: $3,098; Difference: $5,321
        $5,000—reprogrammed to PE 0708011N to support contract at University of New Orleans
        $253—Congressional reduction of 3%
        $21—reduction in travel

$47—reduction for negative inflation
PE 0603706N
Budget: $350; Auth Lab: $322; Difference: $28
$28—reduction for inflation and travel
(2) Fiscal Year 1994
PE 0603216N
Budget: $3,770; Auth Lab: $3,767; Difference: $3
$3 distribution of Congressional reductions
PE 0603706N
Budget: $1,322; Auth Lab: $1,322; Difference $0

Question: Provide a breakdown, by PE line, of the request for the Lab in FY1995.

Answer. NBDL budget for Fiscal Year 1995: ($000). PE 0603216N: $1,142; PE 0603706N: $350.

Question. I understand the Navy has asked certain segments of the ship supply industry to assess the feasibility of operating this Lab and its equipment either through some type of university consortium, or some type of government owned/contractor operated facility or other arrangement. What is the status of this assessment?

Answer. NBDL has never requested, nor are we aware of a request from any other Navy entity that certain segments of the "ship supply industry" assess the feasibility of operating the Laboratory through a university consortium or government owned/contractor operated facility or other arrangement. However, the Naval Medical Research and Development Center has sent letters of inquiry to NASA, DOT, and Center for Disease Control to determine if any of these organizations would have an interest in assuming operation of the Laboratory. DOT and Center for Disease Control have responded in the negative. A response from NASA has not yet been received.

The only university discussions that NBDL is aware of are those between the Laboratory and the University of New Orleans (UNO). The Chancellor of UNO, working through the Dean of the School of Engineering, is developing a plan whereby the Laboratory would become part of a School of Engineering's research center. The operation and administration of the Laboratory would be assumed by UNO. This is based on the premise that the current facility, all onsite equipment, and civilian staff remain as a continuing functional unit. It is our understanding that this plan is being discussed with Congressman Livingston's office. To our knowledge a formal proposal has not been submitted directly to the Navy.

MINE COUNTERMEASURES

Question. How much is the Navy budgeting in FY 1995 for the testing and equipment of LCAC for multi-mission minesweeping duties? What accounts and PEs?

Answer. The following is a breakdown of the Navy's budget for testing and equipment of LCACs for multi-mission minesweeping duties:

Appropriation Account: RDT&E
Program Element 0204413N—Amphibious Tactical Support Units
Project S2231—MCAC Weapons Development
Budget Activity: 07

Funding: ($K); FY 1995: $3,630

[CLERK'S NOTE.—End of questions submitted by Mr. Livingston:]

A–6 AIRCRAFT PROGRAM

Mr. DICKS. Madam Secretary, you mentioned the A–6 program. I was unaware that we are not going to even start low-rate, F/A-18E/F production, I guess, until after all the A–6 have been retired.

Can somebody explain that to me?

Ms. SLATKIN. We would be happy to explain it.

Admiral, do you want to start the discussion.

Admiral LOPEZ. Sure. First, regarding the A–6, we expect to fully retire the A–6 by 1997. We will begin to give our F–14s an enhanced capability by that time.

Mr. DICKS. Why not just fix up the A–6s? Why are we doing this?

Admiral LOPEZ. Sir, it is an aging aircraft that we would have to rewing. In the F–14 you have a multimission aircraft that can act to protect the carrier battlegroup.

Also, when upgraded, it can give us the long-range and all-weather precision-guided munition capability that we need.

Mr. DICKS. Will we extend the life of the F–14?

Admiral LOPEZ. No, sir, we will not. It will be the bridge between the F/A–18 C/D and E/F, which has a shorter-range and precision-guided munition capability.

When we bring the F/A–18 E/F fully on board in the early 2000 time frame, to where we have enough of those in the inventory, then the F–14 will be phased out.

The F–14 will have an average life span of about eight years after we finish.

Mr. DICKS. Correct me if I am wrong, is it true we are going to spend $905 million to get them upgraded before they can be made ground-attack capable?

Ms. SLATKIN. I believe the F–14A/B upgrade, to do the structural enhancements and the like, will cost about $960 million.

Mr. DICKS. And that is done before they have ground-attack capability?

Ms. SLATKIN. Yes, sir.

[The following information was submitted subsequent to the hearing:]

The F–14A/B Upgrade program is the building block for subsequent incorporation of the Block 1 Strike enhancements in the F–14A and B aircraft. From a total program perspective, all of the F–14A/B Upgrade program will not have been completed prior to initial installations of the F–14 Block 1 Strike enhancements. Current plans would allow for concurrent incorporation of the Block 1 Strike enhancements in the F–14A aircraft in FY 2001, as they receive the F–14 A/B Upgrade.

F–14 ALL-WEATHER NIGHT-ATTACK CAPABILITY

Mr. DICKS. What will be the additional cost to give the 210 aircraft all-weather night-attack capability?

Admiral LOPEZ. I think it is about $1.5 billion cost altogether, sir.

Mr. DICKS. To do both?

Admiral LOPEZ. Yes, sir. Part of that 198 grouping will receive survivability mods to give them a chaff (countermeasures) capability. They will also install wiring that is required to give them the upgrade for all-weather and precision-guided munitions capability.

Mr. DICKS. I want to make sure I have got this right. It is $1.5B to do the whole thing?

Admiral LOPEZ. I believe that is correct.

Mr. DICKS. Day/night, all-weather, and ground-attack capability?

Mr. MURTHA. It doesn't give them all-weather, does it?

Ms. SLATKIN. It gives them under the weather capability.

[The following information was provided subsequent to the hearing:]

Incorporation of laser guided bombs as recommended in the Block I air-to-ground modification program would only provide under the weather capability. The Block I program also provides provisioning but not integration of Joint Direct Attack Munition (JDAM) and/or Joint Stand Off Weapon (JSOW). These weapons would permit release of precision weapons in any weather conditions. The optimum strike weapon plan for the F–14 will be aided by the results of a Cost and Operational Effectiveness Analysis effort currently underway.

Admiral LOPEZ. It is because JDAM is a GPS-guided system.

Mr. MURTHA. You don't have all-weather capability, is that correct?

Admiral LOPEZ. You mean to fly in all weather, that is correct.

Mr. DICKS. Why not just accelerate the F/A–18E/F program, in other words buy more airplanes more rapidly, instead of taking a whole plane that doesn't give you what you really need and—is that an alternative to this?

I have been arguing for stability in Naval aviation, but I am troubled this idea of putting all this money into the F–14 when you are only going to have it for such a limited period of time, and knowing we are going to bring down the production rate of the F/A–18E/F aircraft, which drives up the unit cost.

It seems to me it would be better just to accelerate the Es and Fs, and be done with it.

Admiral LOPEZ. Yes, sir. We are reviewing all of our options now in order to take the most affordable and best option. Currently we still plan on the F–14 upgrade. I don't have the answer. If we can in fact accelerate F/A–18 buys enough to cover our needs for long-range precision strike.

Mr. DICKS. When will you first have long-range precision strike with F–14s?

Ms. SLATKIN. In 1998 or 1999.

Admiral LOPEZ. 1998 is when we are starting.

Mr. DICKS. Starting?

Admiral LOPEZ. Yes, sir.

Mr. DICKS. You have got 198 planes. When would you complete these upgrades for these planes?

Admiral LOPEZ. Not until after the turn of the century, around 2003, as I recall.

Mr. DICKS. Then in 2007 you are going to start phasing them out. When is the first IOC of the F–14s? It has got to be 1998, 1999.

Admiral LOPEZ. FY 2000, I believe, sir.

Mr. MURTHA. And that will slip, because they all do.

CVN–76 FUNDING

Mr. DICKS. Do you have to have the money for the carrier this year?

Ms. SLATKIN. The money for the carrier is key this year.

Mr. DICKS. Why is that?

Ms. SLATKIN. For affordability reasons, Mr. Dicks. We have in our fiscal year 1995 program, $2.4 billion for CVN–76. If it slips outside of fiscal year 1995, costs will go up for the carrier. We will have industrial base considerations if it slips. But most importantly, we are going to have to keep buying carriers in the future. If we don't buy the replacement carrier now, it is just going to have to be put in another year.

It is in our program now. If it slips, we would have to change something else if we didn't have it this year.

JOINT ADVANCED STRIKE TECHNOLOGY

Mr. DICKS. Two quick questions. Why not, instead of doing JAST, why not do more F–22s?

Ms. SLATKIN. We estimate to put a Naval version of the F–22 in place would cost us much more than $2 billion, probably more than $8 to $10 billion.

In addition, it would take a significant amount of time to get it into the force. We do not want to repeat earlier problems that we had when we tried to make the F–111 carrier capable. What we are committed to in JAST is not the same silhouette but rather a catalog of common components that we could use in various silhouettes.

As you know, the Navy aircraft require much more structural reinforcement than an Air Force aircraft. So to make the structural modifications required on the F–22, we believe it will cost us a significant amount of money and take a lot of time.

Mr. DICKS. What is this idea of rotating the sponsorship or whatever you call it, that sounds like an invitation for instability. You are going to have the Navy run it for a while and the Air Force run it for a while. I think that the ownership of the JAST program ought to be reconsidered. Somebody ought to run this program. If you want to run it, that is fine.

Ms. SLATKIN. I am the acquisition executive for the JAST program. The program manager is Air Force Brigadier General Muellner.

Mr. DICKS. Is it going to be an inter-service effort?

Ms. SLATKIN. Yes, sir. Every three years we are going to rotate the acquisition staff. It may be useful if I can take a minute to describe the way the program is run to you.

Mr. DICKS. Somebody from the Navy and somebody from the Air Force, they will work together?

Ms. SLATKIN. Exactly. I am in charge, and I report to the Under Secretary of Defense for Acquisition and Technology.

Mr. DICKS. Do you agree with this idea?

Ms. SLATKIN. I believe it is a good way to ensure that all of the Services are together on this program. If we are going to take advantage of the JAST effort in the future, we need everyone's participation in the decision process. That is why I think it is a good idea.

V–22 PROGRAM STATUS

Mr. DICKS. Are you going to have the DAB on the V–22 Osprey in September?

Ms. SLATKIN. Yes, sir, we are planning to go to the Defense Acquisition Board in September on the V–22.

Mr. DICKS. We put $15 million last year in for a Special Operations Forces varient. What has happened to that?

Ms. SLATKIN. We are currently pulling together a joint Marine Corps/Special Operations Forces Program Office. We will get together and examine Marine Corps and Special Operations Forces requirements, understand where the requirements deviate, resolve the issues, and then we will spend the money.

Mr. DICKS. When are you going to move on this?

General KRULAK. We are in the process of working on this right now, sir.

Mr. DICKS. Are you satisfied?

General KRULAK. Yes, sir.

Mr. DICKS. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Darden, any more questions?

Mr. DARDEN. No. thank you, Mr. Chairman.

Mr. MURTHA. I just want to tell General Krulak that the same thing I said about Captain Harlow applies to Colonel Darling. When you go out in the field, don't take him with you. Leave him here, because he particularly likes being here. He does a good job for the Marine Corps. He is more valuable here than he is out there in the field.

General KRULAK. I will make sure to pass that on to General Mundy, sir.

Mr. MURTHA. Thank you very much, Madam Secretary.

There will be additional questions for the record. The Committee will adjourn until 1:30 p.m.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

CV–22—SPECIAL OPERATIONS VARIANT

Question. Congress has supported this program from the start, but this Committee in particular has been the strongest supporter, and we are thrilled to see funds requested in the President's Budget for this program, and to see that you will be supporting the CV–22, the special ops variant as well.

Yet, we continue to hear rumors in the Pentagon, that maybe this program doesn't have the support it really needs. That there continues to be support for slipping the program, again. Since the Navy has committed to fund the development of the Special Operations Variant, the CV–22, has the Navy asked for the $15 million appropriated by Congress for this purpose last year? What is the status of these funds?

Answer. Yes, the Navy has asked for the $15M appropriated for CV–22 development. It is anticipated that USSOCOM will provide the requested funds to the Navy for CV–22 R&D.

Question. Are you confident that all of the necessary information will be available for the V–22 DAB in September? Would you agree that the DAB schedule is important to ensure that long lead procurement funding is requested in FY 1996?

Answer. At the present time, it is anticipated that the information necessary for the V–22 DAB should be available.

The DAB schedule is not critical to the issue of long lead funding in FY 1996. The long lead funding issue will be reviewed as part of the FY 1996 budget development process.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks. Questions submitted by Mr. Wilson and the answers thereto follow:]

JOINT STANDOFF WEAPON (JSOW) PROGRAM

Question. What is the Navy's P3I plan given that the P3I variant is reported to be the preferred JSOW solution?

Answer. The Navy plans a phased approach to JSOW development and production. JSOW Pre-planned Product Improvement (P3I) is an evolutionary change to the baseline weapon system that will ensure long term operational viability.

To the baseline JSOW air vehicle, or "truck", the P3I variant will add a precision seeker, a five hundred pound unitary blast/fragmentation warhead and a data link. These enhancements will provide effectiveness against point targets and minimize the risk of collateral damage to non-military structures. P3I also provides the opportunity to utilize technology advancement in providing the operational capability to respond to changes in threat and emerging requirements.

The P3I unitary warhead variant is scheduled to begin its Demonstration/Validation Phase with a Milestone I decision in October 1994. It will progress into the Engineering and Manufacturing Development Phase with a Milestone II decision in October 1998. Initial production is planned to begin in 2002 with an Initial Operational Capability in 2004.

Question. Provide a schedule and funding requirements necessary to accelerate JSOW P3I to achieve an Initial Operational Capability of 2003.

Answer. Navy is investigating a number of strategies to field the JSOW P3I variant earlier than an Initial Operational Capability of 2004. By working within planned budgets, but executing a slightly rephased program plan, it appears possible to accelerate JSOW P3I sufficiently to achieve an Initial Operational Capability in 2003.

The various schedule and funding options will be reviewed prior to the Defense Acquisition Board Milestone review this fall.

Question. What is the Air Force position on JSOW Baseline, BLU–108 and P3I?

[CLERK'S NOTE.—The Department was unable to provide a response in time to be printed in this hearing volume.]

Question. Can you give an explanation of the Wind Corrected Munitions Dispenser and why the Navy does not appear to be embracing the Air Force concept?

Answer. The Wind Corrected Munitions Dispenser (WCMD) is an inertial guidance kit upgrade to the Air Force's existing inventory and programmed procurement of their Tactical Munitions Dispenser (TMD). The TMD deploys the BLU–97 Combined Effects Bomblet, CBU–78 GATOR land mine, or BLU–108 Sensor Fused Weapon (SFW) submunitions. Its purpose is to negate the effects of wind when bomber and tactical aircraft employ the TMD from medium to high altitudes.

The Navy's "neckdown" strategy for reducing the types, numbers and training burdens of air delivered weapons while increasing capabilities, centers around the Joint Standoff Weapon (JSOW) and Joint Direct Attack Munition (JDAM) programs. The JSOW will provide Navy aircraft a standoff capability to employ BLU–97, BLU–108 and unitary warhead variants. The Navy has no Air Force TMD weapons in inventory. Although the WCMD enhances TMD capabilities, it will not provide the Navy desired standoff or additional capabilities. Therefore the process and cost of integrating WCMD into the Navy inventory is not justified.

Question. How does JSOW (any variant) fit into the SHARK effort initiated by the Air Force but being evaluated by the Navy?

Answer. SHARK is an end-to-end Air Force concept to detect, target and lethally destroy surface-to-air threats of enemy air defenses and is in the early stages of Milestone I (Concept Exploration). The Navy is interested in its progress and proceedings from a joint service standpoint. The two services' concept of operations for destruction/suppression of enemy air defenses differ in some ways and are similar in others. The lethal destruction portion of the SHARK concept is based on delivery of a weapon that can be launched in a time critical mode to permanently destroy the air defense site or its critical nodes. The JSOW varients are possible candidates for the lethal destruction weapon, but are not the only weapons to be evaluated.

NAVY SERVICE CRAFT

Question. Where is the Navy on issuing Requests for Proposals (RFPs) for the six open lighters and two fuel storage barges funded in FY 1994 for the Navy's Service Craft fleet?

Answer. The Navy does not plan to procure six open lighters because there is no need for these craft. The Navy does plan to purchase two fuel storage barges and is in the process of determining the required type (either YOSs or YONs). A final decision will be made in June, and at that time we will also decide whether to procure these barges as part of an existing contract or to issue a new RFP.

Question. Would you please provide for the record a current inventory of the Navy's Service Craft Fleet. The report should include the numbers of craft by class and the age of each vessel.

Answer. The current service craft inventory is attached.

SERVICE CRAFT INVENTORY
(AS OF 19 MAY 1994)

TYPE	NO.	AGE
AFDB	8	15
AFDB	9	23
AFDB	1B	50
AFDB	1C	50
AFDB	1D	50
AFDB	1E	51
AFDB	21	50
AFDB	2D	50
AFDB	2E	50
AFDB	2F	50
AFDB	2H	50
AFDB	2I	49
AFDB	7B	49
AFDB	7C	49
AFDB	7D	49
AFDB	7E	49
AFDB	7G	49
AFDB	9A	20
AFDB	9B	20
TOTAL CRAFT IN CLASS: 19		
AFDL	1	51
AFDL	6	50
AFDL	23	50
AFDL	25	50
AFDL	47	47
TOTAL CRAFT IN CLASS: 5		
AFDM	2	52
AFDM	3	51
AFDM	5	51
AFDM	6	50
AFDM	7	50
AFDM	8	50
AFDM	10	50
AFDM	14	49
TOTAL CRAFT IN CLASS: 8		
APL	2	54
APL	4	54
APL	5	49
APL	15	50
APL	18	50
APL	19	50
APL	29	49
APL	31	49
APL	32	49
APL	42	49
APL	45	49
APL	50	49
APL	54	49
APL	58	49
APL	60	11
TOTAL CRAFT IN CLASS: 15		
ARD	5	52
ARD	7	51
ARD	30	50
TOTAL CRAFT IN CLASS: 3		
ARDM	1	50
ARDM	3	50
ARDM	4	17
ARDM	5	9
TOTAL CRAFT IN CLASS: 4		
DSRV	1	24
DSRV	2	23
TOTAL CRAFT IN CLASS: 2		
DSV	2	30
DSV	3	24
DSV	4	24
TOTAL CRAFT IN CLASS: 3		
IX	308	49
IX	310	24
IX	501	50
IX	502	50
IX	503	50
IX	504	47
IX	506	26
IX	508	35
IX	512	40
IX	514	8
IX	515	13
IX	516	6
IX	517	29
IX	518	50
IX	301	42
TOTAL CRAFT IN CLASS: 15		
NR	1	25
TOTAL CRAFT IN CLASS: 1		
YAG	61	51
YAG	62	28
TOTAL CRAFT IN CLASS: 2		
YC	1	53
YC	2	53
YC	4	54
YC	5	54
YC	7	52
YC	306	52
YC	688	57
YC	695	55
YC	699	53
YC	709	53
YC	712	53
YC	713	53
YC	721	53
YC	725	53
YC	728	53
YC	746	52
YC	752	52
YC	754	48
YC	756	52
YC	757	52
YC	760	52
YC	772	52
YC	775	51
YC	783	51
YC	787	51
YC	789	52
YC	794	52
YC	799	51
YC	800	52
YC	804	51
YC	805	51
YC	813	52
YC	821	52
YC	823	52
YC	824	52
YC	825	52
YC	826	52
YC	828	52
YC	829	52
YC	830	52
YC	831	51
YC	832	51
YC	833	51
YC	979	50
YC	980	50
YC	981	50
YC	983	50
YC	984	50
YC	1058	49
YC	1059	49
YC	1062	49
YC	1065	49
YC	1068	49
YC	1069	49
YC	1070	49
YC	1071	48
YC	1073	49
YC	1074	49
YC	1075	49
YC	1076	49
YC	1077	49
YC	1080	49
YC	1081	49
YC	1084	49
YC	1085	49
YC	1086	49
YC	1088	49
YC	1089	49
YC	1090	49
YC	1091	49
YC	1092	49
YC	1107	49
YC	1116	49
YC	1117	49
YC	1118	49
YC	1119	49
YC	1120	49
YC	1121	49
YC	1273	49
YC	1275	50
YC	1321	49
YC	1323	50
YC	1324	50
YC	1327	50
YC	1328	50
YC	1329	50
YC	1333	40
YC	1351	46
YC	1352	46
YC	1360	45
YC	1366	42
YC	1367	42
YC	1368	43
YC	1371	43
YC	1372	42
YC	1373	42

SERVICE CRAFT INVENTORY
(AS OF 19 MAY 1994)

TYPE	NO.	AGE
YC	1375	42
YC	1376	42
YC	1377	42
YC	1378	42
YC	1379	42
YC	1380	42
YC	1381	50
YC	1382	42
YC	1383	42
YC	1389	52
YC	1391	52
YC	1394	50
YC	1395	50
YC	1400	49
YC	1401	53
YC	1406	41
YC	1407	41
YC	1408	41
YC	1409	41
YC	1410	41
YC	1411	41
YC	1417	42
YC	1419	42
YC	1431	35
YC	1432	35
YC	1433	34
YC	1434	44
YC	1438	50
YC	1440	44
YC	1442	43
YC	1443	43
YC	1444	41
YC	1445	41
YC	1448	50
YC	1449	50
YC	1450	43
YC	1451	29
YC	1464	29
YC	1465	29
YC	1466	29
YC	1467	29
YC	1469	27
YC	1470	27
YC	1471	27
YC	1472	27
YC	1473	27
YC	1474	27
YC	1475	27
YC	1476	27
YC	1477	27
YC	1478	27
YC	1479	27
YC	1480	26
YC	1481	40
YC	1482	26
YC	1483	26
YC	1484	26
YC	1485	26
YC	1486	26
YC	1487	26
YC	1488	26
YC	1489	26
YC	1490	26
YC	1491	26
YC	1492	26
YC	1493	26
YC	1494	26
YC	1495	26
YC	1496	26
YC	1499	26
YC	1500	26
YC	1501	26
YC	1502	26
YC	1503	26
YC	1510	42
YC	1511	50
YC	1512	52
YC	1513	51
YC	1514	35
YC	1517	17
YC	1518	17
YC	1520	17
YC	1521	17
YC	1522	17
YC	1524	13
YC	1525	13
YC	1526	13
YC	1527	13
YC	1528	42
YC	1529	42
YC	1531	42
YC	1534	42
YC	1535	42
YC	1536	42
YC	1537	41
YC	1538	43
YC	1539	42
YC	1540	42
YC	1541	43
YC	1543	42
YC	1547	49
YC	1548	49
YC	1549	12
YC	1550	12
YC	1568	12
YC	1569	52
YC	1570	50
YC	1571	50
YC	1572	9
YC	1573	9
YC	1574	9
YC	1575	9
YC	1576	9
YC	1577	9
YC	1578	9
YC	1579	9
YC	1580	8
YC	1581	8
YC	1582	8
YC	1583	9
YC	1584	9
YC	1585	9
YC	1586	9
YC	1587	8
YC	1588	8
YC	1589	9
YC	1590	9
YC	1591	10
YC	1592	10
YC	1593	8
YC	1594	8
YC	1595	8
YC	1596	8
YC	1597	8
YC	1598	8
YC	1599	8
YC	1600	7
YC	1601	5
YC	1602	7
YC	1605	50
YC	1606	49
YC	1607	
YC	1615	42
YC	1616	41
YC	1617	43
YC	1618	43
YC	1619	4
YC	1620	4
YC	1621	4
YC	1622	4
YC	1623	4
YC	1624	4
YC	1625	4
YC	1626	4
YC	1627	4
YC	1628	4
YC	1629	4
YC	1630	8
YC	1631	3
YC	1632	3
YC	1633	3
YC	1634	3
YC	1635	3
YC	1636	3
YC	1637	3
YC	1638	3
YC	1639	3
YC	1640	3
YC	1641	3
YC	1642	3
YC	1643	3
YC	1644	3
YC	1645	2

TOTAL CRAFT
IN CLASS: 269

TYPE	NO.	AGE
YCF	16	52

TOTAL CRAFT
IN CLASS: 1

TYPE	NO.	AGE
YCV	8	50
YCV	10	50
YCV	11	50
YCV	15	49
YCV	16	49
YCV	19	4
YCV	20	4
YCV	21	4
YCV	22	3
YCV	23	3

TOTAL CRAFT
IN CLASS: 10

TYPE	NO.	AGE
YD	71	55
YD	73	53
YD	82	51
YD	90	51
YD	113	50
YD	114	49
YD	115	50
YD	116	49
YD	117	49
YD	120	50
YD	121	49
YD	127	51
YD	150	50
YD	159	50
YD	162	52
YD	171	53

SERVICE CRAFT INVENTORY
(AS OF 19 MAY 1994)

TYPE	NO.	AGE
YD	172	49
YD	189	50
YD	193	40
YD	196	40
YD	197	38
YD	198	39
YD	199	39
YD	200	40
YD	204	40
YD	206	41
YD	208	49
YD	209	41
YD	210	39
YD	213	40
YD	214	40
YD	217	35
YD	222	35
YD	223	26
YD	224	26
YD	225	24
YD	226	24
YD	228	24
YD	229	25
YD	232	41
YD	233	41
YD	234	42
YD	235	50
YD	236	50
YD	237	42
YD	239	42
YD	241	42
YD	242	41
YD	243	42
YD	244	50
YD	245	50
YD	246	4
YD	247	3
YD	248	3
YD	249	3
YD	250	4
YD	251	4
YD	252	3
YD	253	3
YD	257	1
YD	30-1	61
YD	30-2	56
TOTAL CRAFT IN CLASS: 62		
YDT	14	52
YDT	15	51
YDT	16	49
TOTAL CRAFT IN CLASS: 3		
YF	885	49
TOTAL CRAFT IN CLASS: 1		
YFB	83	45
YFB	87	24
YFB	1504	40
YFB	1516	40
TOTAL CRAFT IN CLASS: 4		
YFD	54	50
YFD	69	49
YFD	70	49
YFD	83	50
TOTAL CRAFT IN CLASS: 4		
YFN	262	53
YFN	263	53
YFN	266	53
YFN	272	53
YFN	276	53
YFN	278	53
YFN	279	53
YFN	283	53
YFN	284	53
YFN	305	52
YFN	306	52
YFN	307	52
YFN	308	52
YFN	362	52
YFN	367	52
YFN	368	51
YFN	369	51
YFN	370	51
YFN	372	51
YFN	375	51
YFN	413	52
YFN	640	50
YFN	642	50
YFN	644	50
YFN	645	51
YFN	646	50
YFN	651	50
YFN	652	50
YFN	654	50
YFN	656	50
YFN	657	50
YFN	658	50
YFN	691	50
YFN	694	50
YFN	704	50
YFN	717	50
YFN	793	50
YFN	794	50
YFN	795	49
YFN	796	50
YFN	797	50
YFN	800	50
YFN	801	50
YFN	803	50
YFN	806	50
YFN	814	50
YFN	816	49
YFN	818	49
YFN	821	50
YFN	901	49
YFN	905	49
YFN	907	49
YFN	910	49
YFN	911	49
YFN	917	49
YFN	934	49
YFN	941	49
YFN	945	49
YFN	946	49
YFN	948	48
YFN	952	49
YFN	953	49
YFN	954	49
YFN	956	49
YFN	957	49
YFN	958	49
YFN	959	49
YFN	962	49
YFN	963	49
YFN	964	49
YFN	965	49
YFN	966	49
YFN	968	49
YFN	970	49
YFN	972	49
YFN	973	49
YFN	977	49
YFN	978	49
YFN	979	49
YFN	980	49
YFN	981	49
YFN	983	48
YFN	984	48
YFN	988	49
YFN	1130	50
YFN	1154	42
YFN	1155	42
YFN	1156	42
YFN	1158	42
YFN	1159	42
YFN	1163	42
YFN	1173	41
YFN	1174	41
YFN	1175	41
YFN	1176	42
YFN	1177	42
YFN	1183	42
YFN	1191	41
YFN	1194	42
YFN	1195	42
YFN	1197	30
YFN	1199	30
YFN	1200	30
YFN	1202	31
YFN	1203	30
YFN	1204	30
YFN	1205	29
YFN	1208	29
YFN	1213	29
YFN	1217	30
YFN	1218	30
YFN	1219	30
YFN	1220	30
YFN	1221	29
YFN	1222	29
YFN	1223	30
YFN	1237	22
YFN	1238	22
YFN	1239	25
YFN	1240	25
YFN	1241	25
YFN	1242	25
YFN	1243	25
YFN	1250	24
YFN	1251	24
YFN	1252	24
YFN	1254	12
YFN	1255	12
YFN	1256	12
YFN	1257	12
YFN	1258	12
YFN	1259	13
YFN	1260	12

SERVICE CRAFT INVENTORY
(AS OF 19 MAY 1994)

TYPE	NO.	AGE
YFN	1261	12
YFN	1262	12
YFN	1264	12
YFN	1265	7
YFN	1266	7
YFN	1267	7
YFN	1268	7
YFN	1269	7
YFN	1270	7
YFN	1272	6
YFN	1273	6
YFN	1274	6
YFN	1275	6
YFN	1277	1
YFN	1278	1
YFN	1279	1
TOTAL CRAFT IN CLASS: 149		
YFNB	5	50
YFNB	19	50
YFNB	30	48
YFNB	31	48
YFNB	32	49
YFNB	34	49
YFNB	36	49
YFNB	37	49
YFNB	39	49
YFNB	41	49
YFNB	42	49
YFNB	47	50
TOTAL CRAFT IN CLASS: 12		
YFND	29	49
YFND	30	23
YFND	31	29
TOTAL CRAFT IN CLASS: 3		
YFNX	4	52
YFNX	7	54
YFNX	15	52
YFNX	20	48
YFNX	22	53
YFNX	24	29
YFNX	25	29
YFNX	26	29
YFNX	30	42
YFNX	31	24
YFNX	35	40
YFNX	36	12
YFNX	37	30
YFNX	38	29
YFNX	39	6
YFNX	40	17
YFNX	41	53
TOTAL CRAFT IN CLASS: 17		
YFP	3	49
YFP	11	27
YFP	12	26
TOTAL CRAFT IN CLASS: 3		
YFRT	287	53
YFRT	520	51
TOTAL CRAFT IN CLASS: 2		
YFU	81	26
YFU	83	31
YFU	91	37
TOTAL CRAFT IN CLASS: 3		
YGN	80	23
YGN	81	23
YGN	83	23
TOTAL CRAFT IN CLASS: 3		
YLC	1	42
TOTAL CRAFT IN CLASS: 1		
YM	17	60
YM	33	25
YM	35	24
TOTAL CRAFT IN CLASS: 3		
YNG	17	53
TOTAL CRAFT IN CLASS: 1		
YO	47	52
YO	220	49
YO	223	49
YO	224	49
YO	225	49
YO	230	49
TOTAL CRAFT IN CLASS: 6		
YOG	58	49
YOG	78	49
YOG	88	49
YOG	93	48
YOG	196	49
TOTAL CRAFT IN CLASS: 5		
YOGN	8	52
YOGN	9	52
YOGN	10	51
YOGN	26	50
YOGN	110	41
YOGN	111	41
YOGN	113	41
YOGN	114	39
YOGN	115	42
YOGN	123	40
YOGN	124	41
YOGN	125	40
TOTAL CRAFT IN CLASS: 12		
YON	2	50
YON	81	52
YON	84	52
YON	87	52
YON	88	52
YON	90	51
YON	91	52
YON	96	50
YON	97	50
YON	98	51
YON	100	50
YON	101	50
YON	102	50
YON	235	51
YON	255	42
YON	256	42
YON	258	29
YON	259	29
YON	260	29
YON	261	29
YON	262	29
YON	269	40
YON	271	26
YON	272	26
YON	273	26
YON	274	26
YON	275	26
YON	280	22
YON	281	21
YON	282	21
YON	283	21
YON	284	20
YON	285	19
YON	286	19
YON	287	19
YON	288	19
YON	289	19
YON	290	40
YON	291	19
YON	292	19
YON	293	19
YON	295	19
YON	301	11
YON	302	11
YON	305	44
YON	306	52
YON	307	5
YON	308	4
YON	309	5
YON	310	51
YON	311	1
YON	312	1
YON	313	1
YON	314	1
YON	315	1
YON	320	49
TOTAL CRAFT IN CLASS: 56		
YOS	8	50
YOS	10	50
YOS	12	49
YOS	16	49
YOS	17	48
YOS	20	49
YOS	21	48
YOS	24	48
YOS	28	54
YOS	33	54
YOS	34	29

SERVICE CRAFT INVENTORY
(AS OF 19 MAY 1994)

TYPE	NO.	AGE
YOS	35	4
YOS	36	4
TOTAL CRAFT IN CLASS: 13		
YP	676	10
YP	677	10
YP	678	9
YP	679	9
YP	680	9
YP	681	9
YP	682	9
YP	683	8
YP	684	8
YP	685	8
YP	686	8
YP	687	7
YP	688	7
YP	689	7
YP	690	7
YP	691	7
YP	692	7
YP	693	7
YP	694	7
YP	695	7
YP	696	6
YP	697	6
YP	698	5
YP	699	6
YP	700	6
YP	701	6
YP	702	6
TOTAL CRAFT IN CLASS: 27		
YPD	45	21
YPD	46	49
TOTAL CRAFT IN CLASS: 2		
YR	25	52
YR	26	50
YR	27	52
YR	29	53
YR	36	52
YR	44	51
YR	46	51
YR	50	50
YR	60	50
YR	63	48
YR	64	51
YR	65	51
YR	67	50
YR	68	50
YR	70	52
YR	73	49
YR	76	49
YR	77	49
YR	78	49
YR	83	51
YR	84	50
YR	85	39
YR	86	41
YR	87	50
YR	88	52
YR	89	57
YR	90	52
YR	91	1
TOTAL CRAFT IN CLASS: 28		
YRB	1	54
YRB	2	54
YRB	22	51
YRB	25	52
YRB	29	49
TOTAL CRAFT IN CLASS: 5		
YRBM	1	39
YRBM	2	39
YRBM	3	39
YRBM	4	38
YRBM	5	34
YRBM	6	34
YRBM	8	32
YRBM	9	31
YRBM	11	31
YRBM	12	32
YRBM	13	31
YRBM	14	30
YRBM	15	30
YRBM	20	30
YRBM	23	24
YRBM	24	24
YRBM	25	24
YRBM	26	24
YRBM	27	24
YRBM	28	23
YRBM	29	23
YRBM	30	23
YRBM	31	13
YRBM	32	13
YRBM	33	23
YRBM	34	13
YRBM	35	13
YRBM	36	13
YRBM	37	12
YRBM	38	12
YRBM	39	12
YRBM	40	13
YRBM	41	12
YRBM	42	12
YRBM	43	11
YRBM	44	11
YRBM	45	11
YRBM	46	11
TOTAL CRAFT IN CLASS: 38		
YRDH	1	51
YRDH	2	51
YRDH	6	50
YRDH	7	50
TOTAL CRAFT IN CLASS: 4		
YRDM	1	51
YRDM	2	51
YRDM	5	50
YRDM	7	50
YRDM	12	32
TOTAL CRAFT IN CLASS: 5		
YRR	1	52
YRR	2	52
YRR	3	52
YRR	5	53
YRR	6	51
YRR	10	49
YRR	11	51
YRR	13	51
YRR	14	50
TOTAL CRAFT IN CLASS: 9		
YRST	1	49
YRST	2	49
YRST	6	49
TOTAL CRAFT IN CLASS: 3		
YSD	74	50
TOTAL CRAFT IN CLASS: 1		
YSR	1	60
YSR	6	50
YSR	7	52
YSR	11	50
YSR	20	50
YSR	25	50
YSR	26	50
YSR	30	48
YSR	31	49
YSR	32	48
YSR	33	49
YSR	37	49
YSR	38	49
YSR	39	49
YSR	40	48
YSR	45	42
TOTAL CRAFT IN CLASS: 16		
YTB	752	35
YTB	757	35
YTB	758	53
YTB	759	33
YTB	760	33
YTB	761	33
YTB	762	33
YTB	763	31
YTB	764	31
YTB	765	31
YTB	766	31
YTB	767	30
YTB	768	30
YTB	769	30
YTB	770	30
YTB	771	30
YTB	774	29
YTB	775	29
YTB	776	29
YTB	777	29
YTB	778	29
YTB	779	29
YTB	780	29

SERVICE CRAFT INVENTORY
(AS OF 19 MAY 1994)

TYPE	NO.	AGE
YTB	781	29
YTB	782	28
YTB	783	29
YTB	784	28
YTB	785	28
YTB	787	28
YTB	788	28
YTB	789	28
YTB	790	27
YTB	791	27
YTB	792	27
YTB	793	27
YTB	794	26
YTB	795	26
YTB	796	26
YTB	797	26
YTB	798	26
YTB	799	25
YTB	801	25
YTB	802	25
YTB	803	24
YTB	804	24
YTB	805	24
YTB	806	24
YTB	807	24
YTB	808	24
YTB	809	23
YTB	810	23
YTB	811	23
YTB	812	23
YTB	813	23
YTB	814	23
YTB	815	23
YTB	816	22
YTB	817	21
YTB	818	21
YTB	819	21
YTB	820	21
YTB	821	21
YTB	822	21
YTB	823	21
YTB	824	22
YTB	825	21
YTB	826	21
YTB	827	21
YTB	828	20
YTB	829	20
YTB	830	20
YTB	831	20
YTB	832	20
YTB	833	20
YTB	834	20

TYPE	NO.	AGE
YTB	835	20
YTB	836	20
TOTAL CRAFT IN CLASS: 77		
YTL	602	49
TOTAL CRAFT IN CLASS: 1		
YTM	146	53
YTM	394	50
TOTAL CRAFT IN CLASS: 2		
YTT	9	4
YTT	10	3
YTT	11	3
YTT	12	3
TOTAL CRAFT IN CLASS: 4		
YW	127	49
TOTAL CRAFT IN CLASS: 1		
YWN	5	64
YWN	70	50
YWN	71	52
YWN	78	51
YWN	79	50
YWN	82	52
YWN	147	50
YWN	156	40
TOTAL CRAFT IN CLASS: 8		

TOTAL CRAFT IN INVENTORY: 951

TYPE	NO.	AGE	TYPE	NO.	AGE

[CLERK'S NOTE.—End of questions submitted by Mr. Wilson. Questions submitted by Mr. Sabo and the answer thereto follow:]

NAVAL GUNFIRE SUPPORT

Question. For at least the last two years, Congress has been adding money to the Navy's budget request for research into ways to improve the effectiveness of naval gunfire support. I understand you have restructured this program, which is now called Naval Surface Fire Support (NSFS). Please describe this new program.

Answer. The Cost and Operational Effectiveness Analysis for Naval Surface Fire Support (NSFS) has concluded and recommended a 155 millimeter naval gun in conjunction with gun launched precision munitions as the most cost and operationally effective means of meeting the NSFS requirement. Based upon the NSFS COEA findings, Navy has structured a NSFS RDT&E program to develop a 155 millimeter naval gun, pursue a joint precision munitions program with the Army, invest in nominal improvements to the existing MK 45 5″/54 naval gun to provide near term improvements in range capability. In addition Navy will invest in technology demonstrations, specifically electrothermal chemical technology and liquid propellants, to determine the potential for incorporation into the 155 millimeter gun design.

Question. How does the previous Navy-Defense Nuclear Agency electrothermal chemical gun development program fit into the current NSFS program?

Answer. The Navy-Defense Nuclear Agency (DNA) Electro-Thermal Chemical (ETC) gun program will proceed through FY 1997 to mature ETC technology. Upon conclusion of the four year technology effort, the results of the ETC demonstration will be evaluated for possible incorporation into the 155 millimeter naval gun development program.

Question. Last year, Congress appropriated $8.5 million for electrothermal chemical gun research, and $2 million for electric gun technology. Please give us an update on those programs. Have you obligated the funds? If not, when and how do you intend to do so? How does the research funded by last year's appropriation fit into your overall program?

Answer. A $23 million funding increase for the Gun Weapon Systems Technology (Warships) program was appropriated for FY 1994; however, only $7.5 million of the $23 million was authorized for expenditure. Navy has developed a detailed execution plan for the entire FY 1994 appropriation that supports the Naval Surface Fire Support technology efforts and includes $8.5 million for the Navy-Defense Nuclear Agency Electro-Thermal Chemical (ETC) gun program and $2 million to conclude the 60 millimeter ETC gun effort begun under the Balanced Technology Initiative. On May 6, 1994, OSD authorized Navy to obligate the remaining funds. Navy is executing the entire appropriated program.

HYBRID LIGHTWEIGHT TORPEDO

Question. Last year, Congress added funds to the budget to maintain the lightweight torpedo industrial base. Specifically, we added $9 million to "ascertain the feasibility of producing hybrid torpedoes," and $24.8 million to the Mk–50 procurement account. Of the additional procurement dollars, $2.85 million was for safe disposal of Mk–50 boilers, $5 million was for equitable adjustment payments, and $17 million was for continued procurement of the Mk–50. The authorizers provided $21.3 million for these purposes. Can you tell me, first, about the status of the hybrid torpedo research program? Have these funds been released by the Comptroller? Have they been obligated?

Answer. In FY 1994, $9.0 million was appropriated for research on the Lightweight Hybrid Torpedo without a matching authorization. Of the $9.0 million, $4.0 million was released by OSD on March 9, 1994. These funds are being used to perform risk mitigation analysis, and a Cost and Operational Effectiveness Analysis (COEA), which will lead to a planned acquisition milestone decision in September 1994. Following Navy's report to Congress of the results of this analysis, the remaining FY 1994 funds, coupled with the FY 1995 request, will be used for the Engineering Manufacturing Development phase. Ninety-eight percent of the $4.0 million had been obligated as of May 2, 1994.

Question. Over the long-term, what are the Navy's plans for this hybrid Mk–48/Mk–50 weapon?

Answer. The Navy's long term plan for the Lightweight Hybrid Torpedo are dependent on the Cost and Operational Effectiveness Analysis, and the acquisition milestone decision planned for September 1994. The long-term intent of the Hybrid Torpedo program is to convert all Mk–46 torpedoes into lightweight hybrid torpedoes, except for those Mk–46 torpedoes needed for Vertical Launch ASROC (VLA). For the current plan, through the year 2010, the Navy intends to procure sufficient hybrid torpedoes to satisfy approximately half of the Lightweight Torpedo Inventory requirements; the remaining half will be satisfied by Mk–46 and Mk–50 torpedoes. The Hybrid Torpedo will provide commonality between the Mk–46, Mk–50 and Mk–48 torpedoes, thereby reducing the infrastructure required to support these weapons, and providing cost savings in operating and support costs.

Question. Have the additional procurement funds been released and obligated? How many additional Mk–50 torpedoes does the Navy intend to purchase with the $17 million added by Congress?

Answer. The $24.85 million Mk–50 WPN increase contained in the FY 1994 Defense Appropriations Act is on hold by DoD. The proposed plans for these additional procurement dollars are: $2.85 million for Mk–50 torpedo boiler disposal, which will fund option orders under a contract awarded to Alliant Techsystems on February 2, 1994; $5.0 million will fund settlement of the Requests for Equitable Adjustments with Alliant Techsystems and Westinghouse; $17 million will fund the purchase of sufficient Functional Item Replacement assemblies, through Mk–50 production contracts with Alliant Techsystems and Westinghouse, to rebuild torpedo assets damaged during the Follow-on Test and Evaluation of the Mk–50.

Question. Are there any funds in the FY 1995 request for either research into a hybrid lightweight torpedo or for further procurement of the Mk–50?

Answer. The FY 1995 budget request contains $10.3 million RDT&E to support the Lightweight Hybrid Torpedo in Program

Element 0604610N, Project Number V2234. These funds will be used to develop and procure Engineering Development Models to demonstrate the proposed torpedo's capability. These funds will also be used to develop processes and documentation for transition from R&D to production, and improve the tactical software for countermeasures and terminal homing improvements. There are no FY 1995 funds requested for Mk–50 production.

RING LASER GYRO NAVIGATION SYSTEM

Question. Last year, the Navy briefed Congress on its plan to competitively procure a common, ring laser gyro navigation system for both submarines and surface ships. At that time, the Navy's schedule called for release of an RFP in April 1994, with contract award to the winner of the competition in September 1994. This schedule would enable the Navy to install the ring laser gyro system on DDG–51 class ships approved in the FY 1994 budget. Where is this program today. Is the Navy holding to the schedule described last year?

Answer. The Navy schedule committed to a September 1994, competitive award for qualification, Operational Test and Evaluation, and Low Rate Initial Production. The program planning to support this schedule is in place, and this schedule is achievable when the $9 million is released.

Question. Have any of the funds added by Congress for this program last year been released? If not, when will those funds be available?

Answer. The Department of the Navy has received authorization to obligate these funds. The documentation required to release the $9 million is currently being processed.

[CLERK'S NOTE.—End of questions submitted by Mr. Sabo. Questions submitted by Mr. Lewis and the answers thereto follow:]

NAVY SHIPYARDS FACILITIES DISPUTE

Question. When Secretary Dalton appeared before this subcommittee last month, he was asked about a long-standing dispute between the Navy and two shipyards concerning large investments made by the shipyards in new dry-docking and offloading facilities in the early 1980's. As you know, the shipyards have contended that the investments were made in reliance on certain representations and assurances by the Navy that if the facilities were constructed, the shipyards would be eligible for substantial new contracting work under the Navy's multi-ship and homeporting policies. Those policies were changed after the facilities were built, and the anticipated workload never materialized. As a consequence the shipyards suffered large losses. In the past, the Navy has argued that it is not legally liable to the shipyards for the costs they incurred. The shipyards contend, on the other hand, that whatever the legal liabilities, fairness requires the Navy to share in those costs. As you are aware, the conference report on last year's DoD appropriations bill directed the Navy to reexamine the dispute and report to the appropriations committee by May 31 of this year on its recommended course of action. What steps have been taken to resolve this issue?

Answer. The Navy is reexamining the dispute and is initiating a meeting with the shipyards and other involved parties to begin discussions. The Navy plans to provide a report detailing its findings and recommended course of actions by July 21, 1994.

Question. Have you met with the shipyards to begin a dialog? Do you plan on meeting with them?

Answer. The Navy is initiating a meeting with the shipyards and other appropriate parties involved to review previous congressional reports and discuss any other relevant actions.

Question. Do you intend to work with the shipyards to negotiate a mutually acceptable solution to this matter?

Answer. The Navy is coordinating a meeting with the shipyards to begin discussion of any other relevant issues. The Navy will consider the results of this meeting in developing its recommended course of actions.

[CLERK'S NOTE.—End of questions submitted by Mr. Lewis. Questions submitted for the record and the answers thereto follow:]

SHIP SELF DEFENSE

Question. Since 37 sailors died in the missile attack on the U.S.S. STARK, the Committee has been very concerned about ship self-defense programs. The budget requests $374 million in R&D alone to address this problem. The staff tells me that this year the Navy briefings on this program are the best in five years. The Committee directed that "cooperative engagement: capability—where ships share radar data for mutual protection—be fielded by 1996. DoD has yet to testify that it intends to meet this data. Ms. Slatkin, what are your plans?

Answer. The Cooperative Engagement Program has been restructured such that the Initial Operational Capability for a surface capability is planned to occur in FY 1996 vice the originally reported FY 1997 fielding date. A development program that will demonstrate Cooperative Engagement Capability in E–2C in FY 1997 with a fielded system Initial Operational Capability in FY 1999 has been approved. The Navy will be testing a Battle Group Cooperative Engagement Capability demonstration at-sea this summer as a step in confirming the planned FY 1996 Initial Operational Capability.

Question. For three years there has been total bureaucratic gridlock between air and sea communities on the cooperative engagement program. Have you resolved this difficulty? Describe your new plan to have common equipment developed for the E–2 aircraft and shipboard use.

Answer. This difficulty has been resolved. During a major Cooperative Engagement Program review, the Director of Surface Warfare and Director of Air Warfare within the Office of the Chief of Naval Operations assured me that an integrated program (shipboard and aircraft equipment) is in place and funded to field the E–2C mission computer upgrade and Cooperative Engagement Capability. We have found a way to reduce size and weight of shipboard hardware. This will allow the same equipments to be installed in the E–2C aircraft or shipboard.

Question. Amphibious assault ships are very vulnerable to land based missile attack. In Iraq, ships loaded with thousands of Marines stood 12 miles off the coast for a month. What are your plans to provide adequate self-defense capability to the new "LX" (also called LPD–17) amphibious assault ship? Explain how the Navy has responded to the Committee's LX legislation.

Answer. The Navy has responded to the Committee's legislation by modifying the LPD–17 class self-defense baseline design to be equal to or greater than any other surface combatant except AEGIS. Navy's plans to provide adequate self-defense capability by including the following in the LPD–17 class self-defense baseline: Evolved Sea Sparrow Missile (ESSM), upgraded Close-In Weapons Systems (CIWS), SPS–48E radar, Cooperative Engagement Capability (CEC), SLQ–32(V)3 and an integrated Ship Self Defense System (SSDS).

Question. The Committee has been very interested, in getting capability fielded to the fleet, rather than just doing R&D demonstrations. What is your strategy in this regard?

Answer. We have developed a coordinated systems engineering approach to support the most rapid, cost-effective fielding of ship defense capability at least risk. The three thrusts of this approach are: improvement of near term capability by procuring and rapidly installing systems and upgrades already developed; integrating/automating these ship self defense elements with development of Ship Self Defense System/Quick Reaction Combat Capability; and leveraging new technology to develop advanced capabilities. Fielding is further expedited via our testing process, which includes land-based testing at Wallops Island, realistic testing aboard the Ship Self Defense Ship (ex-USS DECATUR), and use of at-sea events. The value of this recently implemented approach was shown in the highly successful at-sea tracking and firing demonstration in May and June of 1993 of an integrated Ship Self Defense System suite in USS WHIDBEY ISLAND (LSD–41). This system is scheduled to enter Engineering and Manufacturing Development in the fourth quarter of this fiscal year, and have Initial Operational Capability in LSD–41 class in FY 1995/1996.

Question. The USS STARK was attacked in 1987. What self-defense capabilities does the ship possess today that it did not then?

Answer. Since the attack in 1987, USS STARK (FFG 31) has been equipped with the "Outlaw Bandit" radar cross section reduction enhancement, and the expanded Mark 36 Decoy Launching System.

MANUFACTURING TECHNOLOGY

Question. Manufacturing technology programs make investments that result in more efficient and cost-effective production lines for DoD weapon systems. The Navy has a large, robust program with an excellent track record—which annually is kept intact solely through the actions of this Committee by providing large add-on funds. Ms. Slatkin, please describe the Navy's MANTECH program and its accomplishments during the past few years.

Answer. The Navy MANTECH program sponsors Centers of Excellence in defense-essential process technologies. Its mission is to develop advanced industrial processes, and adapt proven processes, to enable more affordable and competitive production of defense systems. It supports work across the spectrum from basic science and technology to direct interface with naval weapon systems production. These processes are directly transferable to commercial uses, making MANTECH an important part of defense reinvestment and dual-use efforts. Two recent accomplishments are automated fiber placement of composites in the fuselage skin and engine inlets of the F/A–18E/F aircraft by the Composite Center of Excellence in Kenosha, Wisconsin. This technology cut the cost of those components by 25% and laser welding of corrugated steel panels by the Applied Research Laboratory of Pennsylvania State University, used to reduce the weight of ship deck structures by 50% while maintaining their structural strength. This technology is being used for antennas on USS MOUNT WHITNEY, with a ten-ton savings in weight.

Question. Is this an important program to the Navy?

Answer. Yes, MANTECH is providing Navy-essential process technologies to meet our needs for affordable future capabilities. It is a key part of both the Navy's and defense industry's affordability initiatives, that is expected to become more important as the Navy focuses on recapitalizing for the future.

Question. OSD has precluded the services from directly funding MANTECH Programs in the last 2 years, an approach which has been consistently rejected by the Congress. Do you believe that a Navy MANTECH Program under your control and integrated with your weapon system programs can not work?

Answer. There are good reasons for both Defense-wide and Service programs. The Department of Defense plays a key role in guiding inter-Service and inter-Agency applications of MANTECH programs. Service MANTECH programs focus on process technologies driven by Service requirements, and are integrated with weapon systems development. Both Defense and Service MANTECH programs are key contributors to the affordability of future defense capabilities.

Question. Last year, the Congress appropriated $142 million to the Navy for MANTECH R&D programs. What is your understanding of the amount contained in the OSD line in the 1995 President's budget for these same programs?

Answer. The currently projected Department of Defense MANTECH program for FY 1995 includes $97M split among the Services, of which the Navy is expected to receive $19.4M. In addition to these funds, the Navy will receive $20M specifically for the Metalworking Center of Excellence.

Question. Do you consider this to be either adequate or prudent?

Answer. A judgment of what is "adequate or prudent" for this program must be subjective. Defense is not the only sponsor of all the Centers, and we are trying to encourage and balance participation by Defense, other government, and industry for the benefit of all concerned. This balance is being actively discussed among the Defense Department and Services. Our intent is to keep the Manufacturing Centers of Excellence viable and working on Navy-relevant technologies.

Question. What is the impact to the Navy if Congress provides this lower level of funding?

Answer. Appropriation of the President's budget will result in Navy spending $20M for the metalworking Center, and anticipated funding of $19.4M will be used to fund programs at the following: the Center of Excellence for Composites Manufacturing (Kenosha, Wisconsin); Electronics Manufacturing Productivity Facility (Indianapolis, Indiana); Automated Manufacturing Research Facility (Gaithersburg, Maryland); National Joining Center (Columbus, Ohio); and the National Shipbuilding Program.

Question. What is your estimate of how much would be required by the Navy to execute a reasonable program in 1995?

Answer. The balance of Defense, other Federal, and industry funding determines the Centers' focus and business plan. It is in the Navy's interest both to continue the Centers' work on our weapons systems, and to build them into commercially viable full-spectrum businesses. Reduced Navy funds will force them to seek additional cost-sharing from private industry sooner than they had expected. The Centers are rapidly becoming well enough respected to attract that support. The Navy is handling this as a partnership with Department of Defense, and other Services, government and industry.

JOINT STANDOFF WEAPON (JSOW) PROGRAM

Question. The Joint Standoff Weapon System is a $370 million development program. When will the Navy begin procurement of this system?

Answer. Low rate initial production of the baseline JSOW Variant is scheduled to begin during FY 1997.

Question. How many weapons will be procured and what is the estimated cost?

Answer. Current plans are to procure 8,800 baseline JSOW weapons, at an estimated total procurement cost of $1.543B.

Question. What Navy aircraft will have the capability to deploy JSOW?

Answer. JSOW will be integrated for carriage and release on F/A–18 and AV–8B aircraft. The F–14 will have JSOW provisions should a decision be made to fully integrate it.

VERTICAL LAUNCHED ASROC (VLA)

Question. Vertical Launch ASROC is an intermediate range, quick reaction, all weather ASW weapon which utilizes the Mk–46 torpedo as a warhead.

During the FY 1994 budget cycle the Committee received testimony from the Navy that they had a "rock bottom" requirement of 40 VLA missiles a year through 1999. In the FY 1995 budget request no procurement funding is proposed for VLA. Does the Navy no longer have a requirement for VLA? If yes, what has changed since last year's testimony?

Answer. The Navy continues to have a valid requirement for VLA.

Question. It is the Committee's understanding that the Navy has recently revalidated its inventory requirement for VLA. What is this figure?

Answer. The Navy has conducted preliminary analysis on VLA over the last six months. Although not complete, this preliminary study has revalidated the requirement for VLA.

Question. How many VLAs will the Navy have procured through the FY 1994 buy?

Answer. Through the FY 1994 buy, 364 VLA units will be procured for U.S. Navy use, plus an additional 91 VLA units for Japan as part of the VLA Foreign Military Sales program.

Question. Has the FY 1994 contract for VLA been awarded? If not when will this occur?

Answer. Procurement of long lead material for the FY 1994 production contract was awarded in September 1993. Negotiations are ongoing with the prime contractor, Loral Defense Systems, Akron, OH, for the procurement of 64 U.S. Navy VLA units, and 28 Foreign Military Sales VLA units and associated support. Contract execution is anticipated by June 30, 1994.

Question. What is the status of the FMS program for VLA? How many FMS cases do you rate as medium to high probability for FYs 1994 and 1995 and in what amounts?

Answer. The Navy Technology Transfer Security Assistance Review Board has approved 38 countries to receive VLA. Japan will procure 28 VLA units in FY 1994, and has asked for Letters of Agreement for an additional 29 VLA units in FY 1995. Price and availability quotes have been provided to Taiwan for 15/30 VLA units in FY 1995, and to South Korea for 21 VLA units in FY 1995. In addition, government to government briefings have been provided to Canada, Germany and Turkey. It is also the Navy's understanding that several Arab countries with active shipbuilding programs have specified VLA as their ASW weapon of choice.

Question. It is the Committee's understanding that the Navy intends to resume procurement of the VLA in FY 1996. Is this accurate? If so why is the Navy intentionally inducing a production break in the program?

Answer. As a result of the FY 1995 budget constraints, U.S. production of VLA units stops after FY 1994. Consideration of a FY 1996 production restart will be addressed as part of the FY 1996 development process.

Question. What would be the industrial base and cost impact of shutting down VLA production for one year?

Answer. Industrial base impacts of a one year shutdown are: loss of knowledgeable technical support personnel and skilled manufacturing workers; a partial loss of the vendor base; the requirement for requalification of all vendors; the requirement for recertification of all manufacturing processes and test equipment. Shutting down VLA for one year is projected to increase the FY 1996 price 50% to 75% over the anticipated cost if production were to continue through FY 1995.

Question. Will non-participation by the Navy in the VLA program this year endanger FMS opportunities?

Answer. If the U.S. did not purchase VLA in FY 1995, the Foreign Military Sales VLA unit price is projected to increase by approximately 35% to 40%. Foreign government reactions to a large price increase are unknown.

Question. Will any FY 1994 weapon procurement funding for the VLA not be obligated as a result of the FY 1995 production contract award?

Answer. Yes. Approximately $9.9 million will not be obligated on the production contract. However, this funding is required to conduct an orderly shutdown of VLA, for such tasks as updating drawings and manufacturing processes; collecting and preparing tooling for storage; and collecting, analyzing and preserving critical engineering records and data.

SONOBUOY INVENTORY AND REQUIREMENTS

Question. Last year, the Committee requested the Navy to submit a report on sonobuoy inventories for the next five years. The request was made because of concern that some sonobuoys currently in the inventory were obsolete or beyond their useful shelf life. These sonobuoys might be included as "assets on hand" in calculating requirements and budgets, resulting in unrecognized sonobuoy procurement requirements. The requested report was recently submitted to the Committee. The report concludes that 27 percent of the inventory is over five years old and will be unusable. Why has this occurred?

Answer. Factors that have contributed to the overage stock of the sonobuoy inventory are: a) Decline in ASW operating tempos and sonobuoy usage as a result of reduced Soviet threat and fleet ASW training opportunities; and b) Failure to maintain strict First-In-First-Out inventory management practices. The inventory management tool is the Conventional Ammunition Integrated Management System (CAIMS), a product which does not provide visibility into such sonobuoy data as lot number or manufacture date. This shortcoming, coupled with a propensity by fleet operators to operate and train with the most capable and advanced sonobuoy designs against increasingly quiet submarines in challenging acoustic environments, resulted in expenditures of the newest, vice oldest, sonobuoy assets.

Question. The report states that there is a "transition from passive to active sonobuoys for submarine prosecutions in the littoral." Explain this.

Answer. As a result of the transition from the open ocean, deep water nuclear threat of the late 1980's to the shallow water threat of the 1990's, shifts in prosecution tactics have changed to ensure effective warfighting capabilities are maintained. Operations analyses and results from fleet exercises strongly indicate that active search performance against the submarine threat in both deep water and the challenging shallow water littoral water environment is better handled by active acoustic sensors.

Question. Given the current inventory and projected future requirements, which sonobuoy types will be emphasized in future procurement budgets and which types will be de-emphasized?

Answer. As a result of the physical inventory count and revised sonobuoy requirements, the requirement to procure passive (SSQ–53D, SSQ–77B) sonobuoys in the near term is no longer warranted. As the inventory report showed, there is a current requirement for procurement of SSQ–36, SSQ–62 and SSQ–110 sonobuoys. Revised Navy plans are to procure each of these and an emergent requirement for SSQ–86 sonobuoys in FY 1995. Long term plans are to procure a mix of passive and active sonobuoys which meet requirements, with the mix shifting decidedly toward active sonobuoys.

Question. The report states that the Navy will ask to reprogram FY 1994 funding from the SSQ–53D and the SSQ–77B. What is the status of this reprogramming?

Answer. Since submitting the report, the Navy has identified the FY 1994 SSQ–53D and SSQ–77B funding as offsets in the FY 1994 Omnibus Reprogramming Action.

Question. How much funding (and quantities) are now required for procurement of each of these sonobuoys in FY 1994 and how much is excess?

Answer. There is no requirement to procure any SSQ–53D or SSQ–77B sonobuoys in FY 1994. The total amount of funding for the SSQ–53D and SSQ–77B, $48.6M, is excess.

Question. Are there other sonobuoys that you would like to procure with the excess FY 1994 funding for the –53D and –77B? If so, please explain.

Answer. As result of the shortfalls identified in the sonobuoy inventory report, additional quantities of SSQ–36, SSQ–62, and SSQ–110 are required.

However, as previously stated, the SSQ–53 and SSQ–77 funds are being reapplied on the FY 1994 DoD Omnibus Reprogramming action to fund high priority emergent Navy requirements.

Question. What changes do you recommend in your FY 1995 budget of $54.5 million for sonobuoy procurement as a result of this report?

Answer. The President's Budget Request for FY 1995 is $64.4 million for sonobuoy procurement. As a result of the shortfalls identified in the sonobuoy inventory report, coupled with a revised sonobuoy requirement from the Chief of Naval Operations and the Navy position to use FY 1994 SSQ–53D and SSQ–77B for the FY 1994 Omnibus Reprogramming Action, the FY 1995 budget of $64.4 million could be revised as noted below.

[In millions of dollars]

Sonobuoy type	Fiscal year 1995 budget request	Revised request based on study
SSQ–36	0.0	2.3
SSQ–53	24.35	0.0
SSQ–62	0.0	22.46
SSQ–77	28.45	0.0
SSQ–86	0.0	2.37
SSQ–110	11.56	37.27

Question. In previous years, with a very different threat and larger Defense budgets, the Navy did a commendable job of maintaining several qualified manufacturers for each sonobuoy type. Competitive procurement between these manufacturers provided good discipline on sonobuoy costs. Given the current situation, how do you see the sonobuoy industrial base evolving and how will your procurement strategy be changed to reflect this evolution?

Answer. The sonobuoy industrial base is a prime concern to the Navy. The Navy will continue to award firm-fixed price competitive contracts to ensure that discipline is maintained on sonobuoy costs. In view of reduced requirements and budgets, and the desire to maintain competition across all sonobuoy lines, the Navy intends to require sonobuoy manufacturers to be "full-line" (i.e., both active and passive sonobuoy production capability) producers. This procurement strategy will accomplish the goal of maintaining the required industrial surge capability while allowing the Navy to receive the best value via competition.

Sonobuoy manufacturers have been evolving for the last few years into commercial areas in an attempt to expand their overall business base thereby remaining viable defense producers. This emphasis will probably remain as sonobuoy budgets continue to decrease. However, projected sonobuoy funding will probably be insufficient to maintain the present industrial base of three producers.

EA–6B ELECTRONIC WARFARE AIRCRAFT

Question. On February 8, 1994, the Navy announced the termination of three contracts associated with the EA–6B Advanced Capability upgrade program. Why did the Navy decide to cancel this program after spending $698.8 million preparing for production?

Answer. The decision to terminate the Advanced Capability upgrade program was driven by a combination of threat changes and affordability considerations. The Navy considered that the risk was acceptable due to the reduced world threat and the aircraft's proven combat capability.

Question. Is there any existing or planned system available to the Navy that matches the performance specification of the EA–6B Advanced Capability aircraft?

Answer. There is not an existing or planned system available that matches the performance specification of the EA–6B Advanced Capability aircraft.

Question. What is the Navy's current plan for upgrading its electronic warfare capability and what are the development cost and production cost estimates?

Answer. A fully funded plan exists to upgrade EA–6B avionics and make structural modifications, but does not provide a warfighting capability upgrade above the current Block 89 EA–6B aircraft. The current Block 89 plan includes upgrade of the Universal Exciter Unit Weapon Replaceable Assembly, pod hardback modifications, structural modifications and Block 86 to 89 safety improvements. Included in the plan is the replacement of obsolete avionics with common avionics. The President's FY 1995 Budget request for the EA–6B modification program is:

[In thousands of dollars]

Fiscal year:	
1995	38,372
1996	89,295
1997	91,455
1998	97,379
1999	65,589

On November 10, 1993, the Office of the Under Secretary of Defense (Acquisition and Technology) issued a Program Decision Memorandum which directed that a Joint Tactical Air Electronic Warfare Study (JTAEWS) be conducted. The purpose of the JTAEWS study is to examine current warfighting capabilities and make recommendations identifying electronic warfare areas to pursue.

Question. How much funding previously appropriate for the EA–6B program is now available for rescission?

Answer. The funding available for rescission from the EA–6B program follows:

[In millions of dollars]

Fiscal year:	
1993–1995:	
EA–6B Remanufacture, full funding	394.1
EA–6B Remanufacture, advanced procurement	46.9
1994–1996:	
EA–6B Remanufacture, full funding	77.6
1994–1995:	
EA–6B RDT&E	16.4
Total	535.0
Less Nunn-Lugar (1993–1995 APN full funding)	−57.4
Still available	477.6

NUCLEAR SUBMARINE MAIN STEAM CONDENSERS

Question. On February 28, 1994 Secretary Dalton submitted a report to the Congress on the industrial base for Nuclear Submarine Main Steam condensers. The report states that there is only one designer and manufacturer of submarine main steam pump condensers. However, this report also states that certain skills should be possible to establish elsewhere through acquisition of key resources from the current designer/manufacturer. In addition, the report states that NAVSEA considers that establishing a new source for condenser design is an achievable task with manageable risk. Regarding the manufacture of submarine steam condensers, NAVSEA considers that the critical skills are currently available from other manufacturers or can be developed with minimal risk. What would be the cost of qualifying a new design/manufacture vendor for submarine main steam condensers?

Answer. The Navy's plan is to compete the New Attack Submarine main condenser design between the current and the capable suppliers. The capable suppliers identified in the February 28, 1994, report are already SUBSAFE qualified and have experience with most of the materials used in submarine condensers. There would be no additional cost to the Navy to qualify a new submarine main steam condenser supplier, since any such costs would be embedded within the competitive bids for this work.

Question. Why would the Navy consider undertaking any risk associated with a new manufacturer when there is currently a qualified manufacturer already doing the work?

Answer. The Navy considers the technical risk in developing the capable suppliers identified in the February 28, 1994, report to be minimal based on their facilities, skills, and design capability. However, the Navy must consider not only the technical risk associated with a new supplier, but also the business risk of awarding contracts to responsible suppliers. Main condenser design for the New Attack Submarine must begin soon, although delivery of the lead ship unit would not be required until 1999. The Navy must be convinced that the supplier will remain viable through that period. This is why the Navy plan, addressed in the February 28, 1994, report was developed—to ensure that the New Attack Submarine main condenser was designed and manufactured by a technically and financially responsible supplier.

Question. What could the Navy do to ensure the long term viability of the current manufacturer and what would it cost?

Answer. As identified in the February 28, 1994, report, to maintain the current manufacturer through FY 2000, the Navy would have to direct it shipbuilders to procure the CVN 76 main condensers and the LHD 7 main and auxiliary condensers from the current supplier; assign New Attack Submarine main steam condenser development work to the current supplier; and come up with over $10 million worth of additional work beyond current Navy requirements.

These actions would require additional funds beyond what the Navy has already budgeted, as well as explicitly exclude other current surface ship main steam condenser suppliers from competing for available work. In addition, based on current estimates a procurement level of one New Attack Submarine per year will be insufficient to sustain the current vendor beyond FY 2000.

NATIONAL DEFENSE SEALIFT FEATURES

Question. Has the Department of Defense completed the report to Congress on the costs and benefits of a defense features program in lieu of the government assuming the entire ownership costs of Ready Reserve Force ships?

Answer. The National Defense Features (NDF) study requested by Congress is in final coordination and staffing including Joint Requirements Oversight Council review.

Question. Do the report findings support a national defense sealift features program?

Answer. The report indicates that a dual-use (commercial/military) ship is a cost-effective approach to meeting sealift requirements under certain conditions.

Question. When does the Navy Plan to request funding for such a program?

Answer. Funding for National Defense Features is being considered in the FY 1996 budget development process.

[CLERK'S NOTE.—End of questions submitted for the record.]

WEDNESDAY, MARCH 9, 1994.

ARMY PROCUREMENT PROGRAMS

WITNESSES

LT. GEN. WILLIAM H. FORSTER, USA, MILITARY DEPUTY TO THE ASSISTANT SECRETARY OF THE ARMY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION

MAJ. GEN. JAY M. GARNER, USA, ASSISTANT DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS, FORCE DEVELOPMENT

MAJ. GEN. RONALD V. HITE, USA, DEPUTY FOR SYSTEMS MANAGEMENT, OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION

INTRODUCTION

Mr. MURTHA. The Committee will come to order. This morning, the Committee considers all Army procurement appropriations with the exception of ammunition. The principal witness is Lieutenant General William H. Forster, Military Deputy to the Assistant Secretary of the Army (Research, Development, and Acquisition). He is accompanied by Major General Jay M. Garner, Assistant Deputy Chief of Staff (Operations and Plans, Force Development) and Major General Ronald V. Hite, Deputy for Systems Management, Office of the Assistant Secretary of the Army (Research, Development, and Acquisition). General Forster, we welcome you back before the Committee.

We have some tough decisions to make this year with major programs competing with each other—all worthwhile programs. I don't know what the Army's priority is. It is going to be a very difficult year.

When you go from $120 billion overall down to $48 billion, there are going to be some cuts needed this year. I predict that there is not a $20 billion shortfall. I think there is more like a $30 billion to $50 billion shortfall over a 5-year period for the overall Defense Department.

I don't see the savings they are projecting and I don't see us being able to spend that money, so some of those programs have to be cut or terminated. We need to get an idea as to what the priorities are and see if there are programs we can combine. We don't want to go forward with expensive programs, like you did with the A–12, that later get cancelled when they don't work out.

I hope with other programs we won't have the problem that we had with the C–17 aircraft. That is an Air Force procurement program, but it drags on and on and we still aren't over the hill with the thing. If you spend enough money, you can always fix the problem, but that has not been a well-run program. They do good work in some areas, but not in this area.

We appreciate your coming before the Committee. We will put your full statement in the record. If you will summarize, we will get to questions.

SUMMARY STATEMENT OF GENERAL FORSTER

General FORSTER. I will just give a brief summary here.

Last year when we appeared before this Committee, we talked about the Army modernization vision and how we had changed the way we were doing modernization to adjust to a changing world, where 85 percent of our soldiers will be located within the continental United States, and where we have to react to crises and regional contingencies throughout the world and it is not the predictable fight on the Central Plains of Europe as it has been in the past.

To respond in that way with a smaller Army, primarily CONUS-based and one that could not predict the availability of prepositioned equipment at any known position, there were five objectives that we had to accomplish in our modernization program, five capabilities we had to have to project and sustain the force.

You had to get there first and then sustain yourself. That had two criteria. We had to make our light forces more lethal so you could put the first arriving forces, the 82nd Airborne, in early and have them do a good job. We had to make the heavy forces more deployable, and that gets into the C–17 and the sealift from the Navy as important parts of that area.

Once you projected and sustained, you had to protect the force. We have always been conscious of protecting our soldiers, of minimizing casualties, winning as quickly as we can and winning decisively. That means we are going to continue to do air defense, look at the theater ballistic missile defense, and do the Patriot upgrade—the Patriot Advance Capability (PAC–3).

We are looking at biological and chemical detection and defensive measures, because technology for that type of weapon is proliferating around the world.

If you have a good fertilizer industry, you can come up with a chemical warhead. So we have to consider that because that is a cheap way for a dictator to try to put some of our soldiers at risk.

We have to win the information war. We live in an information age now and we have to do whatever is required to give our commanders the right information at the right time; and time to use it while we keep the enemy commander stupid.

This is more than just radios and electronic warfare. It is how you move data around the battlefield in a way that develops a common or shared vision of the battlefield.

We have to conduct precision strikes throughout the breath and depth of the battle to destroy the enemy's critical systems such as weapons of mass destruction and to adjust the tempo of the battle to our liking. We have to be conscious of too many civilian casualties even though they may be the enemy civilians.

We have to be sensitive to collateral damage, be able to take out the IG parked next to the mosque and be able to engage the Scud launcher that has moved into an apartment complex at night. We need to be able to attack high-value targets like TBM launchers that are only vulnerable a fleeting time. You have to dominate the maneuver battle, win or land, destroy the enemy, take the hill, and dare him to come back up.

Those five categories have guided the way we put together not only the 1995 procurement budget, but the way we have set the priorities for the Army for the next future year's development program—trying to be good enough in every area, but knowing that we can't be great in any particular area at the expense of something else right now.

So we have a balanced program that primarily orients on the systems that are leaders in these five capability areas.

For example, Javelin is a world-class man-portable anti-armor missile system, and we are asking for $138.1 million to continue low rate production next year. We just completed the operational test on Javelin and it did superbly. During testing, our soldiers, in a stressful operational environment, day and night, had 49 out of 54 hits in the operational test.

It provides a light infantryman the capability to take out any known tank at 2,000 meters, about the same ranges that most tanks can engage us.

The Armored Gun System is another. Although we are not yet asking for procurement dollars for that, it is very important that we have a protective weapon system that we can air-drop in and provide soldiers protection and with a high-velocity, direct-fire capability.

Other systems work there as well as far as sustainment is concerned. We need to make sure that we do a smarter job in our asset visibility, in spares programming and planning because it takes a lot of sealift and airlift to take spare parts overseas, like we took in the desert and then didn't use.

We are developing total asset viability that lets every commander know the spare parts he has on hand. If he knows what he has, he can be very specific on what he requires, and we can avoid unnecessary deployments. Protecting the force, we have modest upgrades to the PAC–2 missile for theater ballistic missile defense.

The Patriot PAC–3 is coming along in development to increase that area.

Winning the information war. SINCGARS is our second largest procurement this year, but more importantly are the upgrades to the M1 tank, to the Bradley; Longbow upgrades to Apache and the command and control vehicle.

These are the key pieces of our information war capability that allows us to provide data from a scout helicopter to a tank, if that is required, or to a Bradley; to exchange data between Bradleys and tanks in the same task force; to get detailed data into the artillery system so that you can engage targets quickly, and allow the commander to focus everybody in his task force on one objective. If you can imagine our ultimate vision is to have a Comanche helicopter outfront, take a picture of the enemy with his second-generation FLIR, and with the touch of a button, that picture is transmitted to everybody in the task force.

An M1A2 tank with the Inter Vehicle Information System on board receives that picture and displays it for the tank commander, then it can go to a comparably equipped upgraded Bradley, and directly back into the field artillery attack data system where it is displayed for the commander.

The commander can then make sure that everybody knows what the objective is and he gets every weapon system into the fight.

If you are a smaller Army and you can get all your weapons in the fight, then you can do as well as a larger Army that can only get 50 to 80 percent of its weapons into the fight.

So it gives us the ability to fight fast, take advantage of the mobility and agility that rests in our commanders' and soldiers' minds.

An ambitious project, we will not achieve it this century, but we are driving toward it. We demonstrated this technically at Fort Knox and as a result, this committee plussed us up with some money to do further experiments.

We are putting together an experiment out at the National Training Center. We used the money that you gave us for upgrades last year and put together an experiment where we have ten prototype vehicles and production M1A2s that have common digital systems on board so we can demonstrate the efficiency and value of moving these data around among the combat vehicles in a realistic setting.

We invite you to come to Fort Irwin in late April and observe that.

Now, you mentioned, sir, that our procurement budget is down and that is true. We are $800 million short from what we had last year. We told you last year that was our rock bottom number.

Mr. MURTHA. $800 million short——

General FORSTER. Less than what we asked for last year.

Mr. MURTHA. Was that a slip of the tongue——

General FORSTER. We have terminated some programs early, and also stretched and slipped some, so it is a combination of the two.

There are about 57 programs that we have terminated early or killed in the last couple of years to meet the dollars that are available.

Others, we have stretched. We would be in worse shape had we not been able to embrace the acquisition streamlining objectives and got a head start on those within the Army.

We have made remarkable progress from the standpoint of establishing a policy that says military specifications are an exception, that we will buy from the commercial base with commercial specifications and standards first, and only when you justify it, can you use military specifications.

We have gone out on a major education effort to get rid of no value-added type things that creep into our contracts. We have relooked the Comanche development contract and found a way to take $300 million out of that development contract in a fairly easy way.

They are going through a detailed review today and we think there is another $100 million or so that can come out of that contract just by getting rid of the paperwork-type stuff that doesn't contribute to development.

The Advanced Artillery Field System (AFAS), started from the ground up. AFAS is a remarkable request for demonstration and validation, that invites industry to be a team with us and to come up with their own ideas as to how to achieve the broad performance goals that we have established, a landmark Request for Proposal for the Army. It is in doing those things that we have been able to get as much money back into programs and out of overhead that we have.

Sir, that completes my remarks.

[The statement of General Forster follows:]

STATEMENT BY
LIEUTENANT GENERAL WILLIAM H. FORSTER
MILITARY DEPUTY TO THE
ASSISTANT SECRETARY OF THE ARMY FOR
RESEARCH, DEVELOPMENT AND ACQUISITION
ON THE FISCAL YEAR 1995 PROCUREMENT BUDGET
OF THE UNITED STATES ARMY
HOUSE APPROPRIATIONS COMMITTEE

INTRODUCTION

Mr. Chairman and Members of the Committee, thank you for the opportunity to appear before you to discuss the proposed Fiscal Year 1995 (FY95) procurement budget for the United States Army. It is a privilege for me to again represent the Army leadership, the civilian and military members of the Army acquisition work force, and the soldiers who rely on us to provide them with world-class weapons and support equipment to deter conflict or to fight and win our nation's wars decisively with minimum casualties.

We take great pride in knowing that today's soldiers have the most modern warfighting systems in the world. They are trained, ready, and well-equipped. This would not have been possible without the strong support of the Members of this Committee. As representatives of the American people, you have strongly supported our programs and guided them to fruition. I believe the Army has been a good steward of the resources provided us, but our success would not have been possible without your advice and support.

It is imperative that we sustain modernization. If not, our technological advantage over potential adversaries will diminish over time and increase the risk to our soldiers. Modernization is the key to dominance on the future battlefield.

We have made very tough choices because of the budget situation. For reasons of affordability and to retain the most significant capabilities, the Army reduced many procurement programs and terminated others. From FY85 to FY94, the Army procurement account declined by nearly 70 percent. For FY95, our procurement budget request totals $6.1 billion, 14 percent of the overall Department of Defense (DOD) procurement budget request, and 10 percent of the Army's $61.1 billion budget request. Current modernization plans reflect our intent to provide equipment for a balanced, total force capability.

The world today is complex and ever-changing. The Army missions and responsibilities continue to grow, and include worldwide disaster and humanitarian relief, peacekeeping and counter-drug operations as well as training and equipping for combat. There are numerous danger zones; the most urgent being instability on the Korean peninsula with its unknowns regarding nuclear weapons development. The smaller Army of the future must be more versatile, yet as capable as in the past to carry-out the missions assigned us. The profound change in the world order has presented us with new challenges.

Army Chief of Staff, General Gordon Sullivan, has stated that declining resources and increasing missions are "pushing the Army along the razor's edge of readiness." I cannot echo this too loudly. At present, we have arrived at a delicate balance between the demands of training and operations today, and the need to invest in the future. As we continue reshaping the Army into a smaller, power projection force, our modernization program becomes ever more critical.

THE ARMY MODERNIZATION PLAN

In these changing and highly uncertain times, we have a plan to modernize America's Army and take it into the 21st Century. Our blueprint for meeting the challenges of the post-Cold War world details a continuous modernization strategy to ensure that we maintain the capabilities necessaryto protect our nation's interests and to achieve land force dominance over potential adversaries.

The smaller our Army becomes, the more modern and technologically overmatching it must be. If we do not dominate our enemies in the future as we do now, we may still win -- but at the price of far more American casualties, and with the risk of a far longer campaign that will burden our resources and our citizens. The Army modernization strategy recognizes the unpredictability of the where and when of "two nearly simultaneous major regional contingencies" and the fact that most of our forces will be stationed in the continental United States (CONUS). Therefore, we place priority on five areas of technological superiority where the Army must maintain its technological edge. These five areas are: project and sustain the force; protect the force; win the information war; conduct precision strikes throughout the extended battlefield; and dominate the maneuver battle.

The modernization vision is only a little more than one year old; yet, it is working well. We don't foresee substantive near-term changes. Let me update each area and highlight the key procurement systems required to maintain our decisive edge.

Project and Sustain the Force. Although we have a global mission, the Army is now largely CONUS-based. When called upon, we must project our power into trouble spots and our forces can expect to be the first troops on the ground in a crisis. The capability to deploy highly lethal combat forces and sustainment assets rapidly from power projection bases here at home and from our remaining forward presence locations abroad is fundamental to our success in any mission. We fully support the airlift and sealift programs of our sister services, while we work to preposition supplies and equipment, both ashore and afloat, in key areas throughout the world. We cannot preposition in every potential trouble spot; therefore, we are also increasing the combat capability of our earliest deploying light forces in order to get more lethal forces to areas of conflict more quickly.

The Javelin will provide our soldiers a man-portable, highly lethal system against any known conventional or reactive armor. It will feature fire-and-forget technology with a maximum range of 2,000 meters in adverse weather, day or night. This program, which began low-rate initial production (LRIP) in 1994, met or exceeded expectations in the Army/Marine Corps Initial Operational Test and Evaluation (IOTE) completed in December 1993. Javelin hit on 49 of 54 live shots. Deliveries from LRIP are expected to begin in late 1995 and our procurement request this year supports entry into future full rate production.

Initial production of the Armored Gun System (AGS), the replacement for the M551A1 Sheridan, was planned for FY95 but was delayed. AGS will complete early user operational testing in FY95 and we expect to enter low-rate initial production in FY96. AGS is among our highest priorities because it will provide a rapidly transportable, air droppable, protected, direct fire system for the light forces. Consequently, it is important that we keep this program on track.

Sustaining the power projection Army throughout the length of the mission will be enhanced by initiatives such as the Army's Total Distribution Program, which is designed to track the location and control the distribution of material within a theater of operations. Using primarily off-the-shelf commercial capabilities, this system will give us asset visibility throughout the force and its support system.

To support our forces, FY95 procurement programs focus on improving the Army's tactical transportation and distribution capability by continuing the Black Hawk utility helicopter, the Family of Medium Tactical Vehicles (FMTV), the High Mobility Multipurpose Wheeled Vehicle (HMMWV), and trailers for the Palletized Load System (PLS).

Procurement of the UH-60 Black Hawk helicopter continues in FY95, the fourth year of a five-year 300 aircraft contract. The Black Hawk has been combat tested -- Grenada, Panama, and Southwest Asia -- and its extraordinary capabilities are well-known. This multiyear procurement will allow the Army to satisfy 100 percent of its Force Package 1 (high priority) requirements.

The FMTV budget request totals $382.7 million in FY95. The program should complete IOTE this fall after correcting reliability/durability problems found in earlier testing, and enter full rate production in FY95. A family of diesel powered trucks in the 2-1/2-ton and 5-ton payload capacity, built on a common chassis, FMTV will perform line haul, local haul, unit mobility, unit resupply and other missions in combat, combat support, and combat service support units. HMMWV, a Tri-Service program, is a diesel-powered, four-wheel drive tactical vehicle. In FY95, the Army will purchase a HMMWV scout variant, an uparmor variant, and a heavy variant. FY95 procurement dollars total $108 million and will buy 1,258 HMMWVs.

PLS will revolutionize the distribution and resupply of ammunition to forward deployed combat forces within the corps area. The Army recently initiated the final year of production on the PLS multiyear contract. Three units from the 1st Cavalry Division at Fort Hood, Texas, were the first to receive the PLS in early February with the fielding of three PLS trucks and trailers and 18 flatracks (demountable cargo beds) each to the 15th, 115th, and 215th Forward Support Battalions. Fielding Army-wide will continue through FY96. In FY95, we will buy a limited number of trailers. The Army is now looking to expand PLS use beyond the ammunition mission by developing flatracks for other applications. The PLS flatrack is interoperable with allied flatracks, including the United Kingdom, Germany, and France.

Protect the Force. Protecting our soldiers has always been important to us, but the lethality of modern weaponry causes us to reemphasize the protection of our forces. We need air defense, particularly defense against theater ballistic missiles, cruise missiles, and unmanned aerial vehicles (UAVs). Effective, long-range missile defense is required to protect critical bases, ports, maneuver forces, and political targets/population centers from weapons of mass destruction. Realizing there is no 100 percent effective defense, we must maintain the capability to operate in a chemical or biological warfare environment. Finally, combat identification through passive and nonpassive means is essential to reduce the probability of fratricide.

In FY95, we are developing and producing Nuclear, Biological, and Chemical (NBC) detection and monitoring equipment to improve battlefield-essential early warning and monitoring capabilities for our soldiers. Given the proliferation of tactical and theater ballistic missiles and chemical and biological agents, we cannot neglect this. The Biological Integrated Detection System (BIDS) is a good example of our dedication in this area. Prototypes were tested early this year and we initiated low-rate initial production. After additional User Tests in FY95, we expect to approve full rate production.

The Office of the Secretary of Defense (OSD) recognized the threat of modern biological agents and established a Joint Program Office (JPO) for Biological Defense, with the Army as lead. This JPO is managing BIDS for the Army, shipboard detection systems for the Navy, and determining the best course of action to establish a vaccine production facility.

The Patriot Missile System has been fielded to U.S. forces and is deployed in CONUS, Europe, and Southwest Asia. Deployment to South Korea is under consideration. Only the Patriot Advanced Capability-Level 2 (PAC-2) is being produced for U.S. forces. Proven in combat, PAC-2 remains the only fielded capability our country has to defend against tactical ballistic missiles. In FY95, the Army will begin fielding the Patriot Guidance Enhanced Missile, funded and procured by the Ballistic Missile Defense Organization, to improve our interim capabilities until we field the Patriot PAC-3 system in the late 90's.

Win the Information War. Information is power. On the battlefield, information is deadly power. A key factor in modern warfare is the ability to collect, process, disseminate, and use information about the enemy while preventing him from obtaining similar information about our forces. In short, we must destroy, disrupt, and control enemy information sources and distribution while ensuring our commanders get accurate and relevant data in time to use it. Digitizing our battlefield systems is fundamental to winning the information war. Digital data networks allow rapid sorting and sharing of critical battle information throughout the battlefield. This technology allows the commander to see the battle more clearly and better coordinate his forces by sharing his view of the battlefield with his tanks, fighting vehicles, artillery, command centers, and attack helicopters. The system will use standard protocols and formats allowing command, control, and intelligence information such as map overlays and friendly and enemy locations to be passed in near real-time to every key system in the combined arms task force -- as well as to higher headquarters and adjacent commands. The importance of this capability is clear: OSD provided additional funding beginning in FY96 to speed the Army's digitization process. We established the Digitization Special Task Force to develop operational architecture and institutionalize battlefield data requirements by this summer.

A key element of any digitization architecture is reliable and secure digital data links between fighting systems and commanders. The combat proven Single Channel Ground and Airborne Radio System (SINCGARS), with both voice and digital channels, is an important link in any digitization scheme. We will continue to procure and field this reliable, easily maintained Combat Net Radio with excellent security and Electronic Counter Counter Measure capabilities in FY95.

Procurement of common hardware and control nodes for the Army Battlefield Command System (ABCS), formerly Army Tactical Command and Control System, continues in FY95. In addition, we will achieve initial operational capability of our Advanced Field Artillery Tactical Data System (AFATDS), the automated fire support command, control, and communication system and begin rate production. AFATDS will be the first totally automated fire support system and will be interoperable with existing Tactical Fire Control (TACFIRE) and field artillery systems, the Airborne Target Handover System/Improved Data Module, other ABCS nodes, and selected allied fire support systems. The U.S. Marine Corps will also procure AFATDS, beginning in FY96, providing a means to receive digital data from Army units while upgrading their fire support data system.

The CONUS-based power projection Army will become more dependent on Military Satellite Communications (MILSATCOM) to assure critical information data flow to our deployed forces anywhere in the world. To this end, procurement of the Enhanced Manpack UHF Terminal (EMUT) continues in FY95. The EMUT will provide single channel, secure tactical UHF satellite communications to corps and divisions to support early entry operations for joint forces. The need for this capability was determined to be critical in Operation Desert Storm. The Army is the joint agent for procuring EMUTs for all services' requirements to meet the Joint Staff mandate to have joint interoperability in digital secure voice communications after FY96.

As DOD executive agent for the Defense Satellite Communications System (DSCS) ground segment, the Army continues in FY95 its program to modernize and sustain the ground system infrastructure. DSCS provides critical information transfer to our deployed warfighters, as well as high data rate secure information transfer in support of intelligence operations, electronic warfare, and smart weapons.

Conduct Precision Strikes. To conduct synchronized, decisive operations, the Army must strike and destroy enemy forces throughout the battlefield -- laterally, in close proximity, and well in advance of friendly lines. To accomplish this, the Army must have modern artillery, attack helicopters, and missile systems with sufficient range and effective munitions. The munitions suite must include munitions that defeat moving vehicles as well as munitions to destroy high priority, short dwell targets such as tactical missile launchers and enemy air defenses. Against moving enemy-maneuver formations, the Army must concentrate and coordinate indirect fires along with massed helicopter attacks.

The Paladin upgraded howitzer continues in production in FY95. With the FY95 buy, we will have procured 100 percent of the Force Package 1 requirements. The Paladin overcomes many of the operational limitations of the outdated technology of the current M109 howitzer, providing longer range fires and substantially improved survivability through "shoot and scoot" techniques.

The Army Tactical Missile System (ATACMS) in FY95 will enter the fifth year of full rate production. The Improved ATACMS, with much improved range and effectiveness for deep operations, continues in development.

The Joint Surveillance and Target Attack Radar System (Joint STARS) will allow tactical and operational commanders to acquire targets more quickly throughout the depth and breadth of the battlefield. A key element of both precision fires and winning the information war, we have accelerated production of the Medium Ground Station Module, the Army portion of this joint program, with no increase in required funding.

Army forces require modern munitions and the assurance that munitions expended in a conflict can be replenished in a timely manner. This requires a viable munitions industrial base, an industrial base difficult to maintain in this peacetime, resource constrained environment. The Army continues to work with industry to develop affordable courses of action that provide for future needs.

Dominate the Maneuver Battle. Decisive operations require the destruction of the enemy's land combat capability. The Army must always maintain a substantially overmatching capability in maneuver forces, for here the battle is decisive and the risk to our soldiers is highest. Advanced weapon systems and technology will continue to proliferate around the world. To ensure swift, decisive victory with minimum casualties, the Army combined arms team must be able to outmaneuver and outshoot potential adversaries day or night in any weather.

The Army will upgrade our existing maneuver systems -- the Abrams tank (M1's to the M1A2 version), the Bradley Fighting Vehicle (M2A2/M3A2's to the M2A3/M3A3 versions), and modify the AH-64 Apache helicopter (to Longbow configuration) -- with digital processors and communications and day/night/adverse target acquisition sensors to significantly improve the way they fight together as a combined arms team. (The benefits of this digital linkage of fighting systems were discussed under "Win the Information War.")

We will begin upgrading older M1 tanks to the M1A2 configuration this year, and we are working to bring the Bradley A3 and Command and Control Vehicle systems on line more quickly. Longbow Apache will enter Force Development Test and Evaluation (FDTE) this fall. Six prototypes are already flying. We expect a positive full rate production decision following IOTE in early FY96. Putting the digital capabilities of all these systems on the battlefield at the same time leads to the optimization of all four. The sooner we can field Longbow Apache, Bradley A3, and the Command and Control system to units already equipped with the M1A2, the better.

HELLFIRE II continues as the latest production version of the Laser HELLFIRE missile, presently used as the main armament of the AH-64 Apache, OH-58D Kiowa Warrior, and the U.S. Marine Corps AH-1W Cobra helicopters. Longbow HELLFIRE will complete development during FY95 and facilitize for production. HELLFIRE II (laser guided) and Longbow HELLFIRE (radar guided/adverse weather) missiles are complementary. The combination of HELLFIRE II's precision guidance and Longbow HELLFIRE's fire-and-forget capability increases lethality, significantly improves aircraft survivability, and will provide the battlefield commander flexibility across a wide range of mission scenarios.

ACQUISITION REFORM

Thanks to the ability and dedication of thousands of acquisition professionals in DOD and the defense industry, we have been able to acquire the best weapons and support systems in the world. But acquisition programs take too long and the price is too high. It is a price the nation can no longer afford to pay. We have reexamined the way we do business and are changing to a leaner, more flexible system based on commercial specifications and standards.

We have been working steadily to reform the cumbersome system of buying weapons and parts for the last few years. Within the last year, we identified 41 acquisition regulations for potential elimination. After thorough review, we eliminated 17 regulations and transferred two additional ones to the Army Staff for consolidation. Twenty-two regulations remain under review. One of the regulations eliminated required the use of 24 volt electrical systems in motor vehicles even though the commercial market had moved to 12 volt systems decades ago.

In addition, we are telling both government and industry professionals about these reforms through acquisition "Roadshows." We literally go on the road and inform our audiences about the changes we are making and demonstrate what these changes will mean to them.

We are eliminating the approximately 30 percent premium we pay for goods and services over what a comparable product built the commercial way would cost. We emphasize concurrent engineering, early integration of test and evaluation, obtaining the best value for the full life cycle, looking at the commercial world market for better products, reducing functional requirements, and eliminating military specifications and standards where possible. Response has been tremendous and we have had several success stories during the last few years as a direct result of our acquisition reform efforts. Military specifications for a hand-held Global Positioning System (GPS) navigation device would have produced a 17 pound, single channel device costing the taxpayers about $34,000 each. What the Army needed and successfully procured, however, was a modified commercial product. The Precision Lightweight GPS Receiver (PLGR) weighs 2.75 pounds, is multi-channel, and costs $1,200 each.

The 2d generation Forward Looking Infrared (FLIR) Special Task Force is another success story. In only six months, the Army acquisition community and the user, as an integrated decision team, performed the necessary trade-off analyses and technology assessments and drafted the Operational Requirements Document (ORD), acquisition strategy, and funded the program. We have now completed source selection for a 2d generation FLIR that will improve target acquisition by 30 percent and detection range by 100 percent. This will allow the Army to maintain its fielded advantage at night and in adverse weather.

CONCLUSION

We have the solemn responsibility of ensuring that our men and women are well-equipped and have the decisive advantage they need to deter or win decisively in future conflicts. It is a formidable challenge in these days of shifting and nebulous threats and severely reduced resources.

The key to success is our commitment to continuous modernization and effective acquisition reform. Our program is delicately balanced and cannot be accomplished without reducing overhead, eliminating no-value-added/low-value-added elements and investing the savings back into features the user must have. We are making tough choices and smart choices. We are on course. With your support, we will continue to provide our soldiers with world-class equipment.

Thank you.

ARMY MODERNIZATION FUNDING

Mr. MURTHA. Mr. McDade?

Mr. MCDADE. Thak you. General, welcome. We are glad to have you and your associates back in front of the Committee again even though it may not be in the best of circumstances.

I want to address the question to modernization funding levels.

Your modernization budget is down by 45 percent from 1989. General Sullivan (Chief of Staff of the U.S. Army), stated last week that that is not inappropriate given current circumstances.

Does this mean that all Army units and all force packages are sufficiently equipped today or are funded to be sufficiently equipped in your budget?

General FORSTER. No, sir; it doesn't. I think what the Chief means is that we are well equipped right now, and we have proved that in Desert Storm. Also, that is the reason as we changed the orientation of our Army from a European central plains orientation, to a regional conflict orientation, that there can be some pause in procurement.

I think the Chief said that 45 percent is enough and that you cannot continue to take money out of the modernization budget and have a ready Army in the future.

So his statement was, yes, it may not have been inappropriate to do what we have done, but we cannot continue to pay for near-term readiness out of far-term readiness, on the razor's edge, I think he said.

You could, in fact, wind up with two classes of equipment, and we don't want to do that. We want to begin the two-phase modernization program, digitization of existing platforms, the M1s and Bradleys and Apaches for the next five to ten years and go for the Comanches, the advanced field artillery systems, the theater high-altitude area defense system, and CORPSAM, and brilliant anti-armor submunitions beyond 2000 as new starts.

FORCE PACKAGES

Mr. MCDADE. We don't want to see that happen either. We want you to do this in a way that makes you hit a comfort level that the Army hasn't lost its edge, however much it may be on the razor.

I have another question about Force Package 1. In a lot of discussions, it is stated that a particular program will equip Force Package 1 and then stop.

What is Force Package 1 and what are the other force packages?

General FORSTER. Force Package 1 is our first-to-deploy force, ———.

It is our first-to-deploy forces, the ones that will have to take on the brunt of the enemy.

Mr. MCDADE. When we talk about that, we can't get involved with the Bottom-Up Review and the two major regional conflicts. The forces you have outlined are the elite forces, first on the boat, first to go. There is no contention that the two major regional conflicts are funded by Force Package 1, is there?

You are not even addressing that issue?

General FORSTER. No. We would not necessarily see all of Force Package 1 going to any one major regional conflict. It is very scenario-dependent.

Force Package 2 is our overseas forces that would reinforce from Europe, or Korea, or stay in Korea and fight that battle and then Force Package 3 is the general-purpose reinforcing force.

Mr. MCDADE. But you don't fully equip Force Package 2, do you?

General FORESTER. Not to the same degree we do Force Package 1.

Mr. MCDADE. This brings up the question, if you would have the needed capability under scenario planning, when there is no way to get to the funding of the second one?

General FORSTER. We do not modernize Force Package 2 in the next five-year plan to the degree we do Force Package 1.

That is clear. I think the issue is murkier as to how that plays with two major regional conflicts, it depends on how much you have to send to the first.

Mr. MCDADE. Depends on who is on what base.

The Korean Peninsula is major league material?

General FORESTER. Yes, sir.

Mr. MCDADE. How many force packages do you need to be comfortable with two major regional conflicts if the balloon went up in Korea?

General FORESTER. Korea requires perhaps less from us than a Southwest Asia contingency because the South Koreans have a major capability there, so our reinforcements there are somewhat smaller.

The intent is to put the forces in to stop the first major regional conflicts and to fight and win that battle. Then you would hold the line when the second one breaks out with increased fire support and air power until you can get the second package, the second increment of forces to the second conflict there.

Mr. MCDADE. I have to interrupt you because it sounds like we have retreated from where we were. We are talking about projecting air power and we have the Air Force in and we see the bomber force going down. We get a whole series of what if's that come cropping up to us as I know they have to with you.

What we want to do is to work with you in a very cooperative way, which we have always done, to try to ensure that if it is determined that the scenario is two major regional conflicts, that we are able to deal with them in an effective way. If we have to modernize in a different method or reallocate resources, we need to face those decisions—I know as you look at your budget and see the constraints, there is very little you can do about it.

You are hit with a budget. They say, "Here is the number. Plan from it." We want to make sure that we don't regress and see the forces begin to deteriorate given the scenarios that we are planning to defend upon, if those scenarios are legitimate, and I guess we have all signed off on them.

What we haven't done is sign off on the numbers that supposedly allow us to do them. That is the big problem that we have on this side of the table.

120 MILLIMETER (MM) MORTAR

I want to go on, Mr. Chairman, and take a few more minutes. I want to go on to the question of the 120mm mortar with you.

You are reluctantly proposing this year to terminate the 120mm mortar.

General FORSTER. Sir, we are proposing to reduce the number that we buy and to end the production earlier. It is not like a precipitous kill or anything. We were going to buy 1700 self-propelled systems and we are down to about 1,144.

Mr. MCDADE. You are cutting 32 percent of the projected buy?

General FORSTER. Yes, sir.

Mr. MCDADE. How many mortars are required to outfit the entire Army force structure under the Bottom-Up Review?

General FORSTER. Ten division requirement is 1309.

Mr. MCDADE. A small number.

Feel free to amplify in the record, if you wish.

[The information follows:]

The current requirement for the M121 carrier mounted 120mm mortar is 1355. This number is based on a 12 division force. Based on the 10 division model which resulted from the Bottom-Up Review, the requirement is 1309. The Army 1995 budget will fund the procurement of 1081 carrier mounted mortars. These numbers do not include the Army's previous procurement and field of 63 M120 towed 120mm mortars. At endstate, the Army's total inventory of 120mm mortars will be 1144.

120MM MORTAR TERMINATION PLAN

Mr. MCDADE. How many four deuces will remain in the total Army force structure with the decision to prematurely terminate the 120mm mortar?

General FORSTER. I don't know. I will have to answer that for the record.

Mr. MCDADE. Would you get that answer for the record, please.

[The information follows:]

Procurement of the 120 millimeter mortar will conclude after 125 systems are purchased with FY 94 funds. This will leave the Army with 1081 carrier mounted mortars. The 10 division requirement for carrier mounted mortars is 1309, leaving a shortfall of 228. Based on this anticipated force structure, 4 National Guard divisions, the 38th, 35th, 34th, and 40th Infantry Divisions, will not receive the 120 millimeter mortar. These 4 divisions will retain 240 4.2 inch mortars (60 per division).

Mr. MCDADE. The 120 mortar was being processed to replace an obsolete weapon, and give the infantry the only indigenous kind of artillery support that they need in today's world. The four deuces doesn't get you there.

Is this 120mm mortar termination plan simply an affordability issue?

General FORSTER. Yes, sir.

There is no problem with the 120mm mortar. It is affordability.

Mr. MCDADE. We have information that in the Commerce Business Daily, that you are talking about terminating the current 120mm mortar program and simultaneously advertising about the purchase of a new 120mm mortar.

It looks like there is an ad saying you are going to terminate the 120mm mortar and it says that you are going to purchase—begin to purchase a new one.

Do you know what that is about, General?

General FORSTER. No, sir; I don't. I am not aware of any new 120mm mortar program other than the one we have where we have the 63 towed versions and were going to buy the 1,671 self-propelled versions, for a total of 1,734 systems.

Mr. McDADE. Please give us a response for the record, General.

General FORSTER. It may be the mortar computer. We are trying to come up with a better fire control system for it and improve the mortar ballistic computer.

Mr. McDADE. It says a single 120 mortar system, the February 24 Commerce Business Daily.

[The information follows:]

The purpose of the Commerce Business Daily notice is to obtain one breach loading mortar to stress test a prototype composite armored vehicle as part of an advanced technology demonstration. The composite armored vehicle program is a technology base program and is not connected with our 120mm mortar procurement program. We have no operational requirement for a breach loading mortar and have no plans to procure breach loading mortars to replace any of our current systems. We want to use a breach loading mortar for the advanced technology demonstration for the composite armored vehicle program because breach loading mortars cause more vehicle stress than other weapon systems.

General GARNER. You asked a question about four deuces. We keep 240 in the force. Based on anticipated 10 division Active Army force structure, four National Guard divisions, the 38th, 35th, 34th, and 40th Infantry Divisions, will not receive the 120 millimeter mortar. These four divisions will retain 240 4.2 mortars (60 per division).

Mr. McDADE. I remember when a couple of years ago all the CINCs were asked to comment on the four deuces and every one of them reported to the chief, "They are unsafe. We have to get them out of the inventory. They don't work. They are not efficient and they are unsafe." So asking our kids to operate with them seems to be a decision that we can't live with. What is the cost of finishing the 120mm mortar program?

General FORSTER. I will have to get that for the record and give that to you by year.

[The information follows:]

To finish the 120mm mortar program, we will need $27.9 million to procure an additional 274 mortars and the associated fire control sights and mortar carrier conversion kits. Procurement of 274 additional mortars will bring us to our acquisition objective of 1,355 carrier mounted 120mm mortars and will allow us to replace all 4.2 inch mortars from the active and reserve components. To meet our operational requirement for a full family of ammunition for the 120mm mortar, we will need an additional $8.1 million in Research, Development, Test and Evaluation funds (Program Element 64802, Project D613) to complete deployment and type classification of the XM930 illumination round and the XM931 full range training round.

MODERNIZATION FUNDING

Mr. McDADE. Answer Question No. 7 for the record, please.

General FORSTER. Yes, sir.

Mr. McDADE. Thank you very much, Mr. Chairman.

[The information follows:]

Question. What specific modification (mods) are involved in the "application of mods" line, for which the 1994 funding is being changed from $3.062 million to $7.897 million? Why are these mods funded in the procurement line rather than the mod line?

Answer. The "application of mods" line refers to the installation of mortar carrier conversion kits that modify the M106 4.2 inch mortar carrier to the M1064 configuration for the 120mm mortar. Procurement of the mortar carrier conversion kits is funded with the 120mm mortar procurement program.

We funded the mortar carrier conversion kits and their application in the 120mm mortar procurement line because they are unique to the 120mm mortar and are an inherent part of the carrier mounted 120mm mortar system.

Question. When were the mods procured?

Answer. We procured one mortar carrier conversion kit for each mortar procured in each year from fiscal year (FY) 1990 through FY94.

Question. What is the total cost of these mods and their installation?

Answer. Based upon the FY95 President's Budget Request, we funded a total of $12.1 million in FY90 through FY 94 to procure mortar carrier conversion kits and funded a total of $19.7 million in FY92 through FY96 to have them installed.

LIGHT VERSUS HEAVY DIVISIONS

Mr. MURTHA. Let me mention a couple of things before I turn to Mr. Dicks.

We had three Members of Congress from the Armed Services Committee before the Committee saying that the price of increasing the readiness of the Army by "heaving up" the light divisions is absolutely exorbitant. They said they lost by one vote last year a proposal in committee to change it even with tremendous lobbying from the Army. They feel they can win that this year. They were confident that the cost of equipping the Light Infantry Divisions with the heavier equipment is unnecessary. They saw no reason to go forward with it. They made a long presentation to me about the exorbitant expense of those light divisions which have the extra heavy equipment, the sustainability for the light divisions.

I assume you are talking today about ten divisions rather than twelve divisions?

General FORSTER. We are working the Bottom-Up Review force structure.

Mr. MURTHA. Every four star that I have talked to has said "We need twelve divisions" to carry out the mission. You are working on the basis of ten divisions and yet you say we are on the edge? Is this just for testimony? Do you disagree with all the four stars? I met with every four star in the Army. They were in to see me at one time or another and they did not see how they could do the job with ten divisions.

I realize the constraints of the budget, but I think we have to be honest about what we are doing. If we have to go down to ten, I don't see how we are going to be able to do the job in the scenario that Mr. McDade brought up.

After listening to the three members of the House Armed Services Committee, I am concerned about the extra equipment and the extra expense as you reduce the size of the Army divisions. They talk about figures as high as $15 billion.

That may be an exaggeration, but you are telling me you are not over the edge. You are on the edge. You are telling me you are going to do it with ten divisions, that you can meet the scenario that has been laid out for two theaters under less than ideal situations.

For instance, if the airports were contested in Korea, if they had chemicals laid out in the airports, there is no hospital facility or no POMCUS there. The earliest I can see you could reinforce Korea would be probably the Marines in ten days from Okinawa. I see so many problems here that I think we are getting an overly optimistic picture from you, General, and from the Army. It seems to me that what we need to hear is the accurate situation.

In your professional judgment, what is really needed? I know people talk to me privately and people talk to me publicly, but I think if we are going to come up with decisions that we need to make that the whole force structure should be driven by the threat, not by the amount of money available.

I am just concerned that you folks are being overly optimistic in assessing the ability to face these threat scenarios because you are driven by the budget rather than by the threat.

I hope you will keep that in mind as you testify publicly, because if you say something publicly and then everybody tells me otherwise privately, I obviously have to use the public testimony because that is what the people on the House Floor use, and what the people who look at the debate use.

I would hope that you would be straightforward in what you tell us as a witness, because we have problems that I see have gone far beyond what I hear publicly. Everyplace I go, I see problems that everybody says privately are big problems and then they come before the Committee and say everything is all right. We can't have it both ways and it makes it very difficult for the Committee to make a decision. There is not going to be any more money, but we have to make a decision on where the money is spent.

We are probably going to have to go to ten divisions because of the constraints of money, but I think we have to be honest about it.

General FORSTER. Certainly I appreciate the chairman's comments and from—I realize that I come to you as the acquisition guy for the Army and that the overall tenor of Army readiness and ability to meet things really comes from the chief, and I will reinforce what he says, which is that we can't continue to take the downside cuts on defense.

We are on the razor's edge now and additional cuts are going to limit our ability to carry out the Nation's mission.

Let me ask General Garner, ADCSOPS for Force Development—he is the chief prioritizer for the Army in modernization.

Mr. DICKS. And focus on this concern that members have is will we be able to equip all of the divisions.

Can you address that?

General GARNER. Let me go back to Mr. Murtha's question first. What worries me, the first thing is if you were running two MRCs and you lead with your right on the first one and the toughest guy is on the second one, you have problems.

The second thing is——

MODERIZATION ISSUES

Mr. MURTHA. Let me interrupt you there because General Hoar told the Committee that he came close to shutting down an exercise because of transportation shortfalls because Somalia was draining the ability to get equipment. Somalia is not a major operation and yet an exercise almost had to shut down in order to supply it.

General GARNER. The first thing that bothers us is the amount of lift to get us there, get the equipment there in time, or was the toughest guy in the first MRC.

The second thing that bothers us is modernization of the threat. If you are dealing with a threat that isn't going to modernize between now and the next century, we are probably in good shape.

If you are dealing with a threat that modernizes just one generation, we are in bad shape.

Third, we would like to keep more structure, but at the current TOA levels, we can't afford the force structure we have. If you keep more, and don't want to have unreadiness in the present, then there has to be more TOA to go with that.

That may not be doable.

Mr. MURTHA. But the key is can we meet the threat of Iran and Iraq and Korea with ten divisions?

General GARNER. I am going to get to that.

Fourth, if you have to take the force down and say "Go down to a ten-division force," then you have to leverage technology in that force so that you can get the extremely high exchange rates to your favor.

If you don't, then you pay a terrible price in casualties and you may not be decisive.

What we have tried to do with the funds that we have is craft an Army for the future that leverages technology. At low funding levels, that happens very slow.

If you are fortunate enough not to fight a war until late in the next decade, we may be okay. If you fight one late in the next decade with the enemy at the current modernization levels, we might be okay. If the enemy modernizes into the next generation of equipment, we may not be okay.

There is a difference between lights and heavies and we have tried to modernize the lights by putting in Javelin, by improving the TOW sight so it operates out to 3,750 meters.

By improving the TOW sight, by improving the attack helicopters, by extending the range of the deep fire assets that travel with the 18th Airborne force, what we have tried to do with the lights is increase lethality.

You can get the lights there in——

Mr. DICKS. What are these Members talking about?

General FORSTER. Whether they are talking about heavy forces that are in Reserve components and modernizing them or converting light divisions to heavy.

Mr. MURTHA. We are talking about light infantry units having heavier equipment.

General FORSTER. We are not doing that, sir. There is a place for light divisions in the Army force structure. They are the ones that often have to get there first, and our intent is to continue to keep them deployable, keep them light, but give them the additional lethality of technology. That is the Armored Gun System (AGS) and Javelin.

Mr. MURTHA. And tanks?

General FORSTER. No tanks in the light divisions. Armored Gun System, but that is not a tank.

Mr. MURTHA. Where did the VIIth Corps equipment that was disbanded go?

Mr. DICKS. VIIth Infantry Division out of Fort Ord.

General FORSTER. The heavy corps in Europe, sir, that cascaded into where we had other, older equipment in the active and Guard units, they got some of it. A lot went back into prepositioned equipment and prepositioned equipment afloat, on board ships, to help us respond to contingencies elsewhere.

So all that modern equipment was used either to upgrade existing equipment in units or put into prepositioned sets.

Mr. MURTHA. What you talked about earlier is what the three members of Congress were talking about. You realize that to have sustainability, you have to have more equipment. The 82d Airborne went in, and it was so light that it had a hard time sustaining itself in the initial stages of the Saudi Arabian war. This is what they were talking about. Apparently, they had a vote last year in the Committee which was decided by one vote. I guess that this wasn't necessary, that you didn't need to add that additional firepower to enhance those divisions.

I don't know what you call those divisions, but I understood it was the light divisions' increased equipment going to them, and some was coming from the VII Corps. Maybe I am misunderstanding and maybe it is something you folks aren't involved with.

General FORSTER. Let me research that situation and give you an answer.

[The information follows:]

The equipment, that became available for redistribution when United States Army VIIth Corps was disestablished in Europe, is being used in several ways. Some Reserve Component units are being modernized with newer equipment. Some of the corps' equipment is being prepositioned afloat for more rapid deployment of the Nation's armored and mechanized forces, in accordance with the Mobility Requirements Study.

Regarding the Army's light forces, our analysis indicates that additional lethality is required, especially anti-armor capability during early entry operations. That requirement is being met by a combination of two systems. The Javelin will provide anti-armor lethality for dismounted soldiers at ranges up to approximately 2000 meters, day or night, and in adverse weather. We will field 189 Javelins to each of our light divisions to replace the Dragon. It is also replacing the Dragon throughout the Army's armored forces. The Armored Gun System (AGS) will provide high volume direct fires from a mobile, protected platform. We will field the AGS to the light tank battalion in the XVIIIth Airborne Corps at Fort Bragg, North Carolina, and to the 2d Light Armored Cavalry Regiment at Fort Polk, Louisiana.

General FORSTER. This is something that we are not familiar with, and I think it must be either a single division like the 7th ID or the 9th at Fort Lewis, or some area like that.

We are not putting armored vehicles other than the Armored Gun System in our light divisions.

Mr. DICKS. I gave up the 9th.

General FORSTER. I know. I was there.

Mr. DICKS. One of the reasons it was taken down was because it was motorized, one of a kind, and we were trying to equip it separately and it cost too much money. We have been through this exercise there.

If we have 10 divisions, how are they going to break out in terms of heavy and light?

General FORSTER. The light and special purpose divisions, the 82d Airborne, the 101st Air Assault, the 10th Mountain Division and the 25th Division in Hawaii. That would be the four that we would keep.

Mr. DICKS. Then you will have six heavy Divisions?

General FORSTER. Yes, sir.

Mr. DICKS. You haven't decided exactly which six?

General FORSTER. It has not been announced.

Mr. DICKS. You have 12 now and we are going to 10?

General FORSTER. Yes, sir.

ARMY PROCUREMENT BUDGET

Mr. DICKS. What is your budget for procurement this year?

General FORSTER. $6.8 billion, sir. That is our request for 1995 for procurement only.

Mr. DICKS. What was it last year?

General FORSTER. About $800 million higher, in the neighborhood of $7.6 billion.

Mr. DICKS. This doesn't count ammunition?

General FORSTER. Yes, sir, that includes ammunition. That is everything, down to the what we call "other procurement," smaller items, spare parts that are bought with procurement as well as ammunition.

Mr. DICKS. How much would you need—just make an estimate. You are saying you are going to modernize, but you can't do it at quite the pace you would like to do it. What would you need to do it, half a billion dollars? How much more would you need to do this thing in a better way?

General FORSTER. On the assumption that nobody else in the world is modernizing fast, last year we were at the absolute minimum at $7.6 to $8 billion in procurement, overall procurement plus R&D of about $12 billion. That is the minimum to sustain modernization where we don't have an advancing threat.

General Garner talked about the danger if soembody just modernizes just one generation beyond that.

General GARNER. Right now we are at $10 billion a year in total R&D and procurement. At a level of about $12.5 billion then we think that we are more decisive and we drastically minimize casualties. But to fight a battle around the year 2010, 2012, against an enemy that is modernized on a pace of one generation in the next 18 years, then it takes a higher level than $12.5 billion to outpace a modernized threat.

Mr. DICKS. Is there anybody in the world doing that today?

General GARNER. I am not sure, but if you have hard cash, you can modernize yourself a generation in 10 years, and I am talking around 2012, so it is a greater time than that.

Mr. DICKS. If you got an extra $2.5 billion, what would you do with it?

General FORSTER. I would increase the pace of digitization, where we are trying to develop a force that can speak to each other with digital communications very rapidly, can transmit pictures of the battlefield from one fighting vehicle to the other, and where commanders can use it to pass operations orders and overlays and have it appear on the screen in front of the tank commander as opposed to sending him a message that he has to copy down.

We think that inherently builds on the advantages of the American soldier and its leaders. It lets us use the agility of our minds, the common sense our people have, the sophistication that our soldiers have; and it blends itself with the quality of our force and lets us move very fast, outpace everybody we would ever expect to fight. Therefore, we get more of our weapons in the fight, so being smaller lets us move quickly, terminate early, and avoid unnecessary casualties than is necessary.

That means doing things like the Longbow upgrade on Apache faster, which gives it a digital radar picture and a modem that allows it to communicate that picture back to a command and control vehicle, as opposed to having it exclusively for target acquisition by the pilots only. It lets us increase the pace of upgrading the M1 program so we have more M1A2s faster with the display and the inter-vehicular information system on board that allows them to perhaps receive the same picture from the Apache and size it for a tank commander's perspective, so he is seeing the same picture of the battlefield as the attack helicopters, which allows the tank commander to share the same picture with the Bradley platoon leader that is attached to him in a mechanized task force, so within the Bradley you see the same picture.

With GPS available as well you can highlight the locations of friendly forces on the picture. So you get knowledge of where the enemies and friendlies are. You attack the enemy, and it allows you to move faster and keep the pressure on, to operate around the clock. Also, I will expand for the record.

[The information follows:]

Overall, I would put about $459 million into digitization. Of that, $432 million would allow us to improve the network of communications among tanks, Bradleys, helicopters, and command and control vehicles and incorporate the latest generation night vision equipment on our fighting vehicles. Thus we will have improved our equipment in two areas that save soldiers lives: providing a picture of what is happening on the battlefield and denying the cover of night to the enemy. About $27 million would be used to purchase and experiment with 350 Battlefield Combat Identification Systems in our planned fiscal year (FY) 1996 digitized brigade demonstration. These combat identification experiments will give us excellent insight into the validity of our anti-fratricide plans and programs. The most important improvements in digitization are architecture and doctrine development and testing programs. The aviation community requires $107 million to develop their digital capability and the armor community requires $91 million for the Abrams and Bradley digital upgrades.

I would also earmark $230 million for improving the efficiency and rates of our production lines. We can achieve lower purchase costs in several of our programs if we produce at a higher rate and buy out more quickly. For example, while the Javelin missile system is the world's finest shoulder fired anti-tank system, we are buying it at a very inefficient production rate. I would use $196 million to smooth the production on Javelin, achieve Hellfire II minimum rates and keep an FY96 production option open. I would also use $35 million on the Improved Recovery Vehicle program to smooth the production ramp-up from 6 vehicles to 20 vehicles per month and procure electro-optic and digital fire control components which will yield deliveries of Armored Gun Systems six months sooner than scheduled. The most important improvement in this area is in the Javelin missile program for $75 million.

Preservation of our industrial base causes us great concern and I would spend about $304 million in that area. Approximately $153 million would be used buying out the acquisition objective on 120mm mortars and M119 howitzers, and fully funding the upgrade program for the Abrams tank. For missiles, I would spend $44 million to build the self-destruct fuze facility for the extended range Multiple Launch Rocket System rocket, prevent a production break in TOW missile modification components, and fund the Stinger retrofit program. I would also spend about $47 million on various types of ammunition: small arms, 25mm for the Bradley, and 60mm mortar. To support our plant closure plan, I would spend $59 million on decontamination, asbestos abatement and equipment disposal. The most important programs in this area are the training and war reserves ammunition procurements for $47 million and the Abrams upgrade program for $97 million.

Finally, there are some smart things we can do that will round out the capability we are building now and enhance the capability of the soldiers who will have to fight first. I call this area "Warfighting Enhancements." The list is very extensive and individual entries are generally small sums of money. The total for Warfighting Enhancements is $1.7 billion. That includes $208 million for close combat systems, $275 million for aviation, $323 million for intelligence and electronic warfare systems, $456 million for missile improvements, $91 million for command and control systems, $315 million for combat support systems, and $70 million for special access programs.

Let me highlight the most important Warfighting Enhancements.

I would spend about $53 million upgrading parts of the Abrams tank to improve our capability to dominate maneuver and to protect our soldiers. That money would be used to accelerate development of the 2nd generation Forward Looking Infrared (2nd Gen FLIR); provide an improved laser rangefinder; develop improved armor; and develop an under-armor auxiliary power unit.

To improve our precision strike capability, I would accelerate the Army Tactical Missile System with Brilliant Anti-Armor Submunition program and get it into the field sooner ($45 million). This combination of deep attack missile with a very capable anti-armor submunition has great promise for engaging enemy armor, artillery and missile launchers long before they become a direct threat to our fighting units.

I would spend $48 million procuring three AH–64A aircraft which are needed to close the "Apache production gap." Three aircraft will close the gap if foreign military sales to the United Arab Emirates and Kuwait are successful. I would also use $23 million to procure 24 Target Acquisition System/Pilot Night Vision Systems, Eighteen would be installed on aircraft and six would be used to upgrade trainers.

In summary, the additional $2.5 billion you might appropriate would be used in ways that translate directly into preserving our own soldier's lives while fighting as a smaller force. While the Army has lost the equivalent of an entire corps in its strength, our aim in the acquisition community is to compensate for the reduction in the force by multiplying the capability, agility and survivability of the remaining force.

Mr. DICKS. When would you get there?

General FORSTER. About 2010 to 2015 for Force Package 1. But part of the problem here, sir, is that it doesn't make a lot of sense to do this unless you do the total package, the tanks, the Bradleys, the command and control vehicles, the attack helicopters, the field artillery systems. So you have to bring them all along, and it is better to have some of each than to do just the tanks first and then the Bradleys later. That slows the pace down because you have to attack on a broad front here.

It is dollar driven, and under the dollars we anticipate, we don't get there until after 2010. That is for Force Package 1, which is the continental U.S. contingency force, 18th Airborne Corps, plus its reinforcing units.

PROCUREMENT RATES AND UNIT COSTS

Mr. DICKS. Do you have examples here of very low procurement rates that are driving up unit costs, your worst stories?

General FORSTER. Yes, sir, I have a couple.

I am glad you asked, because Hellfire II next year, I think we are spending $70 million, and we are buying 830 missiles. For 15 percent more, I could increase the number of missiles by 50 percent, because it gets me up to a not-to-exceed option trigger where I get a better price. So for another $12 million I could get more than 400 additional Hellfire IIs.

Javelin is a very important program to the Army. We need a lot of them. This is a hand-held anti-armor system; less than 49.5 pounds; a 2,000-meter range; day, night, adverse weather capable; a world-class weapon. But we have driven the cost up $30,000 a unit just by suppressing the production rate in the next five years, and we generated a billion dollars to pay other bills to keep a balanced modernization program going, but Javelin unit cost has paid the price.

Mr. VISCLOSKY. Would the gentleman yield?

$30,000 off what base?

General FORSTER. Off a $65,000 base up to $95,000 in weapon costs. That is still not a bad price for a weapon of that caliber and it is a price we have to pay, because we needed the billion dollars for other modernization efforts. That is an example of what happens when you stretch.

PRODUCTION RATES

Mr. MCDADE. Would you yield?

General, we appreciate your frank answers. I am wondering if you would furnish to the Committee your acquisition schedules that are bound to these low rates, what the cost would be across the spectrum, because it is happening in every service, and we ought to address it to see if there isn't that additional large bang for the buck to see if we can't come to grips with some of that and maybe pull that 2010 number down to something less than 20 years.

Would you include ammunition in that, please, too?

General FORSTER. Yes, sir.

[The information follows:]

Here are some examples of how lower production rates have pushed our acquisition schedules further into the future. The Javelin program, which I mentioned earlier, consists of buying the missile and the command launch unit (CLU). We began buying this system in fiscal year (FY) 1994, and we would like to buy our procurement objective of 26,600 missiles and 2,800 CLUs by FY04 at a cost of about $3.5 billion. We prefer to buy out our procurement objective by FY00 or FY02. But further budget constraints may force the Army to stretch production well beyond FY04. If we could increase our production rates and complete the Javelin buy earlier, the production cost would decrease to approximately $3 billion if we complete buying the system by FY00 or $3.2 billion if we complete buying Javelin by FY02.

The Armored Gun System (AGS) is currently scheduled to begin production in FY96 and completing the procurement objective of 237 AGSs in 7 years (FY02). I prefer a 5 year buy, completing the procurement objective by FY00, and reducing production costs from $1.25 billion to $1.2 billion.

Another example is the Improved Recovery Vehicle (IRV). The procurement objective for the IRV is 346 vehicles and it will take 12 years, until FY06, to complete buying the IRV in 9 years, in FY04, and reduce the production costs from $839 million to about $797 million.

A fourth example is the Comanche Helicopter. We don't have any procurement dollars for this system until FY99. We plan to buy about 1300 by FY20 at a maximum rate of 72 per year. Again, I would prefer to complete buying the procurement objective by FY16 at a maximum rate of 120 per year. This would reduce the production costs from $38.7 billion to $36.9 billion.

You also asked about ammunition. I would like to accelerate the M919 and the 25mm Armor Piercing Fin Stabilized Discarding Sabot round. We have a shortage of this critical warfighting round for the Bradley Fighting Vehicle. We currently plan to buy the M919 procurement objective of 8 million rounds in 39 years at a cost of $800 million. But I prefer to buy these 8 million rounds in 11 years at a cost of $652 million. The M919 was not ready for production in time to be included in our FY95 budget submission.

While I have used the M919 as an example, in general, the ammunition industrial base is sensitive to the impact of procurements. Because of the shortage of resources, many procurements are carried out at the minimum sustaining rate in order to retain the skills and facilities necessary to produce munitions. While there might be a cost advantage to increased production rates, that advantage is offset by the need to maintain base capabilities. A specific example of this situation is the production of metal parts used in the 120mm mortar ammunition made in the Scranton Army Ammunition Plant.

Mr. DICKS. What about the other five divisions? What is going to happen to them?

General FORSTER. The ones not in Force Package 1?

Mr. DICKS. Right.

General FORSTER. They will retain the basic capabilities, they will have an M1A1 tank that is upgraded, but not to the M1A2 upgrades. It will be able to communicate digitally but will not have the built-in system that the M1A2 has.

Mr. DICKS. ———.

General FORSTER. Absolutely, sir. We are very proud of that. ———. That is on track in conjunction with Sandia, and it is a radar sensor. I think there is great potential for that in linking that back in for the far-out reconnaissance and tying it back into the digital task force. We intend to pursue that.

Mr. DICKS. Is that a digital picture?

General FORSTER. It can be. I don't think—the one that is on there now is not. Ours will be. We are just now getting—except for the 58 Delta Helicopter.

Mr. DICKS. Are you involved in this effort with Mr. Lynn and General Israel, you are part of that?

General FORSTER. Yes, sir. I represent the Army on that steering group.

Mr. DICKS. How do you think they are doing?

General FORSTER. There have been some fits and starts in getting that defense airborne reconnaissance office started up. We had a review the other day, and they have some more work to do. We will get back together with them next week.

Their fundamental task is going to be to develop an architecture that allows airborne reconnaissance assets across the Services to play together in a form that I just described for the Army only, where we are trying to take pictures from scout helicopters and put them into our tank and command and control centers and artillery areas. They are looking at the R1 aircraft, Rivet Joints, Unmanned Aerial Vehicles, and more sophisticated sensors and make that data available across the board through some kind of unifying architecture and that is not an easy task.

So it is not unexpected that they would have fits and starts as they started up here.

Mr. DICKS. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Visclosky.

HELLFIRE MISSILE

Mr. VISCLOSKY. General, if you could get your hands on an extra 400 Hellfires this year, what would you do with them?

General FORSTER. It would be one that we wouldn't have to buy later. Four hundred is not above our requirement. The 830 we are buying in 1995 is a dollar-constrained number. We would continue to buy Hellfire IIs a little bit longer, so the additional 400 we would buy in 1995 would go to replace basic Hellfires on the Apaches now.

Mr. MURTHA. In line with what he is asking, is this an industrial base problem, or are you eventually going to have to have them anyway? Would it eventually end up that you would close down the line and you wouldn't like to do that? Does that play in the equation?

General FORSTER. No. We go to Hellfire II which is a common bus for the Longbow Hellfire, so that line blends into the Longbow Hellfire over time. This case is dollar driven, not buying the quantities necessary to achieve the best price.

INDUSTRIAL BASE PROBLEMS

Mr. VISCLOSKY. The Chairman raises a good point, and relative to Mr. McDade's request, you might make a notation on some of the procurement items as to whether at the conclusion of their purchase it would represent a problem to you in continuing to manufacture in the industrial base.

General FORSTER. Yes, sir. We have areas, particularly in the ammunition area, where industrial base is almost as important to us in our considerations of how we spend money as to what is the military need.

I have never seen that in the Army, but we are considering those as major factors.

Mr. VISCLOSKY. There is a long list of items, like the Hellfire or the Javelin, where for another 15 percent, for another 20 percent, you can buy 50 or 100 percent more. But there is no more money?

General FORSTER. Right.

ACQUISITION REFORM

Mr. VISCLOSKY. So part of the equation also is living with the consequence of not having an extra 15 percent of funds.

What is the Army and contractor community doing to get the unit price down, given what the new reality is?

General FORSTER. I am glad you asked that, because we are working with industry as hard as we can to get out front and we are out front in acquisition reform, and stay there. We have introduced a partnering concept, which is a free and open exchange of information, including problems and how we can work with each other to resolve major issues.

We have embarked on a major meat cleaver approach to take out non-essential requirements and specifications that cost manpower and dollars in overhead, but are only on the margin as far as value is concerned to the military end-product; and taking those out so we can put those dollars and manpower back into the products, as opposed to the program.

The Army started the Acquisition Reform program in 1992, but it has picked up more emphasis in 1993, not because we are smarter, but perhaps because we are more desperate.

Mr. VISCLOSKY. So the program would have been in place for the entire fiscal year 1993?

General FORSTER. Yes, but it is a growing program. As we get more latitude from the Secretary of Defense and Dr. Perry's ideas on acquisition reform, we can go forward ourselves. We just approved an approach from DOD saying we no longer can require a unique military quality specification. If a contractor is using an international specification, that is good enough, so we should not require him or pay him to impose a new system. We had gone that way in the Army for Army-managed programs, but now it includes these programs as well.

Mr. VISCLOSKY. Could you provide for the Committee the items which you procured more of and you paid less for—another way to put it, could you provide us specific examples of reduction in unit costs even though the quantity of purchases have not gone up because of this program?

General FORSTER. Yes, sir. That may be difficult to do because in some cases the quantity stayed the same because we have the unit price down lower.

[The information follows:]

It's early in the acquisition reform process, but I want to give the committee a few examples of how acquisition reform has speeded up the acquisition process and provided us needed military hardware at a lower cost. In March 1993, a firm fixed-price contract was awarded for a new training helicopter (NTH) and cockpit procedure trainers. The purpose of the NTH program is to reduce training costs by displacing the current primary trainer, the UH–1 with a commercial off-the-shelf helicopter that has lower operating and support (O&S) costs. Working with the industry, we developed a request for proposal (RFP) for a non-developmental item (NTI), commercial off-the-shelf and Federal Aviation Administration certified. The key to developing this RFP was to insist that if you wanted to include a requirement, you had to show that it was necessary, and not the other way around. The RFP told the story in only 96 pages. Due to the rapid fielding of the NTH, the UH–1 fleet at Ft. Rucker will be replaced much sooner than a normal acquisition. It is estimated that every year in which the New Training Helicopter fleet operates, as opposed to the UH–1, we will realize a $50 million O&S cost saving.

Another example is the Precision Lightweight Global Positioning System (GPS) Receiver (PLGR). The GPS is a space-based radio positioning and navigation system that provides world wide precise position, velocity and time information. For this system we also adopted a commercial off-the-shelf NDI acquisition strategy. We determined that the commercial vendors were offering lighter and less costly GPS products to the public. While these did not met all of the military objectives, we were able to adapt commercial GPS receivers for military use. To achieve this, we worked closely with industry to get information on their planned product evolution, and we were able to adapt our requirements to capitalize on industry's innovation. By switching to a commercial off-the-shelf NDI strategy for the PLGR, we were able to achieve over a 75 percent cost reduction from the predecessor commercial unit we bought for Operation Desert Storm. In the first year of the contract, FY93, we saved over $41 million. We used functional requirements in our FRP rather than military specification/design specification. We targeted the buy to a future evolution of commercial product rather than to todays model.

General FORSTER. A good example of that is the light Global Positioning System receiver. We bought that commercial specs, Rockwell brought it in at less than a third. We plan on buying more, but the Congress said, you are so smart, we are going to take $10 million away from you.

We increased the number of units because we got the price down so much lower than what we predicted, a good contractor that came in with innovative ideas allowed us to buy it as a commercial piece of equipment.

It won't always be a quantity match, but we can show you some areas where it has truly paid off to go to commercial specs and standards to look at partnering and streamlining. But the benefits in the first year are small compared to what they are going to be in outyears.

Mr. McDADE. There is another issue called risk, too, isn't there?

General FORSTER. Yes, sir. We have to balance that against the dollar savings and make sure we don't take an undue risk. In many cases, we find that going to commercial specs and standards reduces risk because in electronic componentry and information and computer processing commercial standards have outpaced military standards.

Mr. McDADE. I think of an example we had when we went to Saudi Arabia. We went by military air, and sitting on the tarmac there, the electronics burned out in the heat, and sitting around were Apaches, tanks, milspec'd. It didn't bother them a bit and the risk element wasn't there.

Here we were in a highly sophisticated—supposed to be, anyway—airframe that didn't work.

General FORSTER. We are not backing off from the performance, sir. We are just backing off from the specifications that say this is how you do it. So we still require, to operate from minus 50 degrees to 131 degrees—we can get that with commercial products.

One thing we found in Comanche is that we were requiring by virtue of a military spec the electronic modules to be ceramic-encased to protect them from outgassing and impurities and to provide temperature protection. There is now a plastic-encased module out there called PIM that has the same performance characteristics at about half the price. And we have test data on that.

Mr. McDADE. We don't hear about a lot of risk. I remember hearing a previous Deputy Secretary telling us there was no problem with the tank, you could close down the line and go to GM or Chrysler and tell them to build it—they didn't understand what a ruggedized vehicle was, your necessity to take hits to go through a hostile environment. They thought you could buy a minivan.

From your perspective and talking to the Committee, how we deal with this, we want to make sure that you get the bang for the dollar but not increase the risk.

General FORSTER. We still have a requirement on our trucks for them to ford 40 inches of water. That is a reasonable requirement, and you can't get that from an industrial product.

So where there is no industrial spec that is relative to what we are doing, we can use a military spec, but better than that, we incorporate the requirement, as opposed to referencing a spec which may reference another spec. We are trying to say, this is the performance we want; you tell us the best way to get there. And then we work together to work that out so that there is not undue risk here.

Any time we go to one of these things, we have to do a risk analysis, and that has to be up front, and we know where we are going.

Mr. McDADE. I like the sound of the way you are trying to plan. I want to make sure that we don't get into high risk level.

Mr. Chairman, I have questions for the record.

[CLERK'S NOTE.—Questions submitted by Mr. McDade and the answers thereto follow:]

MODERNIZATION FUNDING LEVEL

Question. Page two of your statement reads in part that "Existing and future needs far exceed current and projected resources." From your perspective, what are the major shortfalls of your current needs?

Answer. Shortfalls occur when programmed procurement is stretched out over more years than originally planned, when programs are terminated early, or when promising technology is relegated to continued study in the science and technology base rather than emerging as a component upgrade to put equipment in the hands of soldiers sooner. If the downward trend continues, the Army's air and ground fleet as well as other pieces of equipment will not be upgraded to retain the technological edge we now enjoy. The Army's continued ability to maintain the competitive advantage of technology overmatch over potential opponents, who have ready access to emerging commercially available technologies, requires continuous modernization. Otherwise our existing level of modernization becomes the standard to best by possible adversaries as they accelerate their modernization and we slow our process.

The Army has used the modernization accounts to sustain near term readiness. The near term problems are exacerbated by paying unprogrammed operations from Operations and Maintenance accounts. This increases the problem of repairing readiness shortfalls as we pull training dollars from the last half of each year's budget awaiting the necessary supplemental adjustment by the Congress, if the Congress chooses to do so. Even when reimbursed, the Army cannot recapture lost training opportunities, events or the time during the year that a vehicle or weapon is not available. Only infusion of additional funding can reverse this trend. Otherwise sustained near term readiness is paid for by declining long term readiness.

Question. What are the major projected shortfalls for resources in the outyears?

Answer. The Army is challenged to balance modernization with readiness and to find the optimum modernization plan that can be executed within real-world financial constraints. The established process of modernizing the force through the introduction of new generation of weapons systems platforms has slowed considerably. The Army now focuses its modernization efforts on very few new systems, increased emphasis on upgrades to current systems, and a strategy of high payoff technology insertions simultaneously introduced into the force through Horizontal Technology Integration. Several of these systems, such as the Comanche, Longbow Hellfire, M1A2, Javelin, and Brilliant Anti-Tank Munitions (BAT), are programs that will bring superior technology to the battlefield to counter potential adversaries.

As the total Army budget has decreased, the budget for Research, Development and Acquisition has declined by about 45% in current year dollars from fiscal year (FY) 89 through FY 95. As this downward trend continues it degrades Army readiness in at least two ways. As the air and ground fleet as well as other key pieces of equipment age, maintenance problems and costs will increase. Failure to procure and field improved systems/components increases the risk of losing the ability to maintain the competitive advantage of technology overmatch commercially available to emerging opponents. Otherwise our existing level of modernization becomes the standard to best by possible adversaries as they accelerate their modernization and we slow our process.

Question. For the record, provide a list of Army equipment for which the Army Procurement and Acquisition Objective has not been achieved and identify the shortfall for each.

Answer. The Army Acquisition Objective (AAO) is the quantity of an item of equipment or ammunition required to equip the approved U.S. Army force and sustain that force, together with specified allies in wartime from D-Day through the period prescribed in the latest Defense Planning Guidance. It is the Army Procurement Objective which is normally achieved. The Army Acquisition Objective is seldom achieved and the shortfall is constantly changing. A list, if one could be generated, would be of little value given the nature of how the process functions. In most cases affordability prevent the Army from procurement at the quantity prescribed in the Acquisition Objective. Reduced funding levels have required the Army to focus its modernization priorities and procurement objective on the Active and Reserve Component units that are first to fight. These early deployers are modernized by force package in current Department of the Army Master Priority List (DAMPL) sequence. Units normally considered reinforcing forces are modernized mainly by cascading equipment from the corps contingency force and forward deployed forces as those units are modernized.

Question. General Sullivan noted in his statement last week that the Army is "looking across the valley" to higher future budget levels for modernization. What levels of modernization funding are you planning to budget in the next five years?

Answer. Current projections are approximately $10 billion to $11 billion per year for Research, Development, Testing and Evaluation and Procurement combined.

120 MILLIMETER MORTAR

Question. The fiscal year (FY) 1994 budget reflected a 120 millimeter (mm) mortar procurement objective of 1734. What is the new objective and how many will your current plan fund?

Answer. The current authorized acquisition objective for the carrier mounted 120mm mortar is 1355 systems. We are currently funded to procure a total of 1144 120mm mortars of which 1081 are carrier mounted systems.

Question. We understand that the Army also plans to change its 1994 120mm mortar procurement program as a result of the termination decision.What specifically are these changes and what is the status of their implementation?

Answer. The table below show the changes in the FY94 program from what we showed in the FY94 President's Budget Request to what we are now showing in the FY95 President's Budget Request. We are obligating the FY94 funds according to our current plan as reflected in the FY95 President's Budget.

FISCAL YEAR 1994 PROGRAM

[Dollars in millions]

Cost element	Fiscal year 1994 President's budget	Quantity	Fiscal year 1995 President's budget	
		Cost	Quantity	Cost
Mortars	226	$7.173	125	4,390
Carrier conversion kits	226	2,425	125	1.316
Sights/fire control	226	1.228	125	0.667
Basic issue items		0.957		0.520
Training inserts		0.324		0.202
Engineering support		0.693		0.680
Quality assurance		0.107		0.205
Testing		0.400		0.393
Engineering change orders		0.037		0.146
Application of modifications		3.062		7.897
Fielding		0.542		0.532
Total		16,948		16.948

[CLERK'S NOTE.—End of questions submitted by Mr. McDade.]

Mr. MURTHA. Mr. Visclosky.

INTERNATIONAL ARMS MODERNIZATION

Mr. VISCLOSKY. General Garner, you had talked before about the possibility that a threat would be modernizing and that they would get a generational increase and that changes the dynamics of what you have to do to prepare for that. Mr. Dicks asked for a specific example, and you said that you didn't have one, but you mentioned that as a minimum requirement, they would need hard currency to do so.

General GARNER. What I said is, if you have hard currency with proliferation of weapons today, you can generally modernize your forces.

General FORSTER. Let me give you some examples, because it bothers us.

Mr. VISCLOSKY. My question is, if you are talking about someone modernizing, how would they go about modernizing in this day and age, internal development or on the market?

General FORSTER. If you want to do it quick, you buy off the market. Right now, all of the major armies—ours, the Russians, the British, the French—are facing budget crunches and reducing size, which means that there are industrial base issues in those countries and that there gets to be excess equipment there as well. So a lot of that equipment is finding its way to the commercial marketplace, to the black market as well, at fairly cut-rate prices.

Are you familiar with Comb Liquidators. They buy excess inventory and sell it for cut-rate prices. They are liquidating Russian second-generation goggles, $50 a pair. Soldier of Fortune magazine offers FLIRs, night vision devices. They won't take a personal check, but they have an 800 number.

So that technology is available out there. It is not the world's greatest, but it is good. So you can buy modernization if you have hard dollars.

Mr. VISCLOSKY. Thank you, Mr. Chairman.

[CLERK'S NOTE.—Questions submitted by Mr. Visclosky and the answers thereto follow:]

HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE (HMMWV)

Question. What is the Army's approach towards continued procurement of HMMWVs in the outyears to insure a sustained capability in order to meet future requirements for this important vehicle?

Answer. The Army is staffing a Justification and Approval for a sole source requirements contract with AM General for future HMMWV purchases. The Army views this type of contract as the most viable means of preserving the production base. The contract will allow the government and the contractor to take advantage of Foreign Military Sales cases, Congressional plus ups and unforeseen, additional Army requirements. With the FY95 HMMWV request serving as the first year of the contract, production will run into FY96.

Question. What is the Army's position regarding participation with the Marine Corps' 5 Ton Truck ESP program?

Answer. On February 8, 1994, MG Brabham, United States Marine Corps, sent a Memorandum to Lieutenant General Forster requesting that the Program Executive Office, Tactical Wheeled Vehicles provide the management for the program. Concurrently, a Memorandum of Understanding is now being staffed which will delineate specific responsibilities and program goals.

Question. The Army successfully concluded a two-step competition for the 2½ ton ESP. Does the Army anticipate a two-step competition for 5 Ton Truck ESP?

Answer. The Army would consider a two-step competition should an appropriate amount of Research, Development, Test and Evaluation (RDTE) funding be available for the prototype phase. The Army plans to conduct test and evaluation of prototypes of up to two industry vendors and select the successful offeror.

Question. The Congress appropriated $14.0 million for the heavy armor HMMWV program in fiscal year (FY) 1994 to meet emergency requirements and directed the Army to provide their program plan by March 1, 1994. What is the procurement profile (quantities and costs by year) and the procurement strategy for this program?

Answer. The procurement profile is as follows:

[In thousands of dollars]

	Quantity	Amount
Fiscal year:		
1992	93	$12,500
1993	115	15,410
1994	256	34,432
1995	81	12,656

The first fifty-five Uparmored HMMWVs were purchased from O'Gara-Hess and Eisenhardt under limited procurement procedures to satisfy an urgent requirement to protect US forces in Somalia. The remaining vehicles will be procured through AM General as a modification to ongoing or follow-on contracts except for about 100 Uparmors due in December 1994.

Question. The U.S. Army Reserve has an expanded role for Combat Service Support and the Army Guard has an expanded role in reacting to civilian disaster relief. What are the Army Reserve and Guard requirements for High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) and 2½ Ton Truck Extended Service Plan (ESP) vehicles? What is the Army's approach to providing funding to meet these requirements?

Answer. The Army Reserve requirement for HMMWV is 14,997 and Commercial Utility Cargo Vehicle (CUCV) is 1,927. The National Guard requirement for HMMWV's is 36,307 and CUCV is 6,702. The Army Reserve has 15,130 2½ Ton Trucks and the National Guard has 15,210 2½ Ton Trucks that will require replacement/upgrade.

The Army will continue to field HMMWV's to the Reserve and National Guard in Fiscal Year (FY) 95. The Army is planning to award a HMMWV requirements contract in FY 96–99 which could be used by the Army, if funds become available, and by other services. The next HMMWV buy is planned for FY 02. Currently, there is no CUCV rebuy planned. The Army's approach to funding the 2½ Ton Truck ESP is to allow the Army Reserves and National Guard to use Directed Procurement Program dollars to fund ESP, although the Army's preference is to buy two Family of Medium Tactical Vehicles for the price of three ESP trucks.

[CLERK'S NOTE:—End of questions submitted by Mr. Visclosky.]

Mr. MURTHA. Do you know what this is, General?

General FORSTER. It looks like a protective seat for the High Mobility Multipurpose Wheeled Vehicle (HMMWV).

Mr. MURTHA. We started on this project years ago. One of your predecessors was before the Committee and I told him that when you ride in a HMMWV it is over the battery and very uncomfortable. The next year they came back and said there was a new seat. I have not seen this seat in the field. Has this seat ever been sent to the field?

General FORSTER. Sir, I don't know.

[The information follows:]

Sir, the seat that you refer to was cut into production on the HMMWV line in January of 1990. Additionally, a minimum of 16,000 seats have been procured and are available in the supply system to replace the original seats.

General FORSTER. We are trying to put a seat in that has a little protection in it.

Mr. MURTHA. This seat doesn't have any protection. Every time I see a HMMWV I am looking forward to saying "there is my seat".

Mr. Willson of the staff says they have a new commercial HMMWV with a very comfortable seat. It seems to me we could look at that and see if we couldn't use a better seat. If you are riding in it for a long period of time, I would think we could come up with a better seat. I wish you would give me a personal report.

General FORSTER. I will get the specifics on that seat before we leave and make sure I ask the right questions and get the right answers for you.

[The information follows:]

The commercial seat is a very comfortable seat. In fact, we introduced the commercial seat into production on January 31 of this year as part of the HMMWV "A1" block improvement program.

Mr. LEWIS. I heard, General, that you suggested to the Committee that there are going to be exercises at NTC in April in which digital communication and other advanced activity will take place. We have a break in Congress in April ranging between 25 March and April 11. I don't know what the timing is of those maneuvers, but nothing would be better in terms of the subject you are discussing than to have this Committee see some of these operations at work out there.

General FORSTER. The exercise will be 18 April to 25. We will make sure you get invitations and specific days and particularly for the exciting part of the demo.

We will have 120 upgraded vehicles there that can talk digitally back and forth.

ARMY HELICOPTER IMPROVEMENT PROGRAM (AHIP)

Mr. LEWIS. I would certainly like to go myself.

Has a question been asked about the AHIP and whether you feel that you can get by with the current purchase or are you still stating you need the original request?

General FORSTER. We still need the original request, but again, it gets to be an affordability issue within the Army. We have 330 out of 500 that are required, and that is our first digital system. That was the first digital system with the airborne target handover system. It will still be after 10 years at the National Training Center (NTC) demonstration passing its digital picture back and forth, it is the first digital FLIR.

I was the Project Manager. I will tell you that up front, so you don't think I am too prejudiced.

PALADIN PROGRAM

Mr. MURTHA. I was just at Letterkenny and saw the Paladin for the first time. I am told that you have characterized that as a model government-industry program. Is that accurate?

General FORSTER. Yes, sir. The accuracy is borne out by the fact that even FMC, who won the competition, wanted to continue that Letterkenny relationship as they got into the Paladin program, and the only way to have a competitive price was to work with excess capability there and use some of their facilities.

I think at one time there was an intent to do a commercial paint shop, but we found out that the paint shop at Letterkenny was good enough so that saved money. That is an excellent way to work together.

Mr. MURTHA. I have to compliment you, because I got the same impression, that this program is really on the cutting edge of the type of thing we should be doing between government and industry in order to make it more efficient. They are excited about it, and as long as they can do the quality work, and I feel that they can, I think it is the type of program we could promote.

One of the things they brought out was that the typical Paladin takes 800-some pieces of paper when they refurbish it. This particular program would take three pieces of paper. They think there is a $20 million savings in just the amount of reduced paperwork, so I have to say, that is the direction we should go.

I challenged them when I was out there that I would like to see if it stays at three of paper, because I know the tendency of the government to start adding additional requirements, which then add additional paperwork and then add additional money. So I would be fascinated if this program stays with only three pieces of paper, and you could still do the quality work and produce it on time at the cost as bid.

General FORSTER. Yes, sir. We not only will work to make it that way for Paladin, but we want to use it as an example for other programs. We will keep it at that level and use it as an example for other programs.

The good thing about Paladin is that effort started after it was in production, so it was something that was changed to be more competitive in the bid process, so it says that you don't have to wait for a new start to implement these reforms.

Mr. MURTHA. You were doing initial production at BMY, and then you rebid it and saved substantial amounts of money with the rebidding.

General FORSTER. BMY started at Letterkenny. As time went on was when they started reducing the paperwork.

FMC basically had to do the same to be competitive in the competition with BMY, so we really got the best of all worlds.

Mr. MURTHA. Mr. Darden.

AIR DEFENSE

Mr. DARDEN. Thank you, Mr. Chairman.

Generals, good to have you with us this morning.

I realize the severe constraints that you are under with our budgetary situation, and we appreciate your dedication to our problems here. I have an interest in the area of air defense.

Could you outline the Army's acquisition strategy and plans for ground-air defense and for air-to-air defense?

General FORSTER. Sir, that is an area that has suffered, there is no question about that, because the manned aircraft threat to our Army is diminishing, and we also have a world-class Air Force that takes on most of that. So we have stopped production of the Avenger, for example, which is the vehicle-mounted Stinger, after this year. We are continuing to look around at a complementary missile to the Stinger. Reprogrammable Stinger will be the basis for our forward area air defense for years to come. It is a dual band infrared/ultraviolet seeker.

We have looked for a complementary missile, to go on the Avenger, that would use a different technology. There is a study going on within our Program Executive Office for Tactical Missiles, where he has laid out a program of analysis using live-fire tests to look at potential missiles for that.

The first analysis showed, for example, that your only two real competitors are upgraded Stinger and Starstreak, which is being built for the British Army now. So sometime this summer, they will start doing a live-fire test and provide us results that we will look at.

Even then, it has to fight its way back into our budget, and that particular area has not fared well in priorities in the past.

General GARNER. Let me add, in the short-range air defense area, that is correct. We think we have enough capacity and redundancy that we are able to protect ourselves from those manned aircraft we say are leakers.

When you look at the future, the threat to the force is theater tactical missiles, especially those armed with weapons of mass destruction. When you get into warheads that have submunitions in them, such as biological or chemical, you get into a very lethal weapon system that runs the potential of closing your early entry operations or if successful, they can turn to geopolitical targets.

So what we are doing is enhancing our protection of the force through the upgrades to the Patriot system, the building of the THAAD system, and in the future, a tremendously significant threat will be cruise missiles; cruise missiles and the very short-range tactical missiles begin to endanger the Army or Marine Corps, the land forces, as we begin to maneuver out from under the Patriot umbrella.

It drives a new requirement that we call Corps Surface-to-Air Missile (CORPSAM).

In the last month, the Assistant Commandant of the Marine Corps and Vice Chief of Staff of the Army have sent an eight-star letter to Mr. Deutch emphasizing the need that we have for this system. Mr. Deutch recognizes that and will attempt to help us.

STINGER MISSILE

Mr. DARDEN. I understand that not a single Stinger was fired during the Gulf War for air defense purposes. Is that correct?

General FORSTER. That is correct, sir. Our Air Force was there in force, and the enemy did not come down into the close role and try to attack us. I think the Iraqis got their noses bloodied early on and didn't fly their fixed-wing aircraft after that.

Mr. DARDEN. Are you comfortable at this point in the Stinger Block 1 program? Do you believe it is the best direction for us to be going?

General FORSTER. The immediate upgrades on the Stinger? Those things need to be done. That will enhance its capability primarily for air-to-air, from our 58 Delta helicopters. It takes out the requirements to jerk the nose back up to give it super elevation.

It does provide better clutter rejection and infrared countermeasures. It is a modest improvement, but one worth doing.

STARSTREAK MISSILE

Mr. DARDEN. You mentioned a British system, the Starstreak. Is this a mature system?

General FORSTER. I would not characterize it as mature. It is just now entering fielding in the British Army. I happened to be over there about a month ago and saw the early versions.

At the artillery school, I fired a simulator. It is now being introduced into the British Army. There is not a lot of operational experience with it.

Mr. DARDEN. What is your feeling about that? Should we look at that? You know we put money in, I believe last year, for a test of this Starstreak missile. I just wondered, is that going to be done? Do you anticipate doing that? What I am saying, is it worth pursuing? Is it an avenue you would like to see us pursue, one which is just not a very high priority for the Army? I am trying to get direction about where you would like to see us go.

General FORSTER. I think the overall direct air defense mission area has been a relatively low priority in recent years. We are pursuing the analysis and the test as Congress asked us to do. We should have the testing done late this year.

I would not make a judgment as to where you go beyond that until I have the actual test data. I think then you have to look at how good the performance is, then it has to go back to general Garner and stack up with the rest of the requirements in the Army as to where we go from there.

Mr. DARDEN. Is it safe to say then the whole area, to the Army, is not as important as it is to the Air Force, or the other services? Is that—I am trying to——

General FORSTER. I guest you could say defense against aircraft is of less concern to the Army now because it is very important to the Air Force. They have a lot of aircraft. We do not face the massive air threats we did when it was the Soviet Union, 20-some-odd thousand fighter attack aircraft out there, including HIND helicopters.

There just is no regional threat that has that level of manned aircraft.

The real threat we want to concentrate on is one General Garner talked about which is the tactical ballistic missile. That is the one that bothers us.

You will not see money in our budget for that because that is funded through the Ballistic Missile Defense Office in a separate budget line. We manage those programs and we work very hard because they are absolutely critical to us.

Tactical ballistic missiles (TBM) can be a much cheaper way, a poor man's Air Force from the standpoint of being able to put a lot of damage deep. You do not have the upkeep; you do not have to take the elite people to be the aviators there.

So you can invest or buy a TBM from some other country; and you can blackmail us or put some of our soldiers at risk fairly much for a minimum amount of dollars.

We really have to develop a protection against that. That is really where our focus is. Manned aircraft is real, but the whole Air Force can pretty much go after that.

We can take out the leakers with Stingers or Stinger complimentary missiles as time goes on.

Mr. DARDEN. Will we see clusters of helicopters?

General FORSTER. No, sir. Not now that we are away from the central plains flying in Europe. There is some danger of that in Korea. It is very small compared to what we would have faced in Central Europe.

Mr. DARDEN. I have one other question. What ever happened to the hypervelocity missile?

General FORSTER. LOSAT? Line-of-sight anti-tank missile?

For affordability reasons, we could not honestly continue to develop that. We put it back in the technology base because that technology has great potential. We wanted to develop it, but did not want to put the dollars against it to turn it into a totally fieldable system. It is still in the technology base.

We are doing tests on it. It is doing well. It is a capability where we will retain the technology so if we ever face a massive armored threat again, we will be able to build upon what we have so far.

Mr. DARDEN. Thank you very much.

Thank you, Mr. Chairman.

Mr. MURTHA. Thank you very much, gentlemen. We appreciate your coming before the Committee. There will be additional questions for the record. The Committee will now adjourn until 1:30 this afternoon.

[CLERK'S NOTE.—Questions submitted by Mr. Wilson and the answers thereto follow:]

HUEY SERVICE LIFE EXTENSION PROGRAM (SLEP)

Question. The National Defense Authorization Act, Fiscal Year 1994 requires a study of the Huey Service Life Extension Program (SLEP), to be performed by the Army and the Guard. Be specific about the role you are playing in developing that study and recommendations for the Defense Committees, and tell us whether the requirements of the Guard are being given the level of priority that this Committee and the Armed Services Committee agree you should have?

Answer. The Army and National Guard Bureau are jointly conducting a study to determine if a UH–1 SLEP is required. The final recommendation, with rationale and justification, is due on or about 1 May 1994. The report should be available for the Defense Committees on or about 15 May 1994. The National Guard is inputting their requirements to the study.

Question. Don't you agree with this Committee that a performance enhancing Huey SLEP Program, at a price tag of $1.5–2 million a copy, makes good economic and readiness sense for the Guard at a time when new helicopter procurement is unlikely best?

Answer. If the study recommends that SLEP occur, it will recommend a coordinated (active and National Guard) proposed configuration of the aircraft and provide the associated cost. The study could recommend that no SLEP is required.

Question. What are the specific performance requirements that the Guard has identified for the Huey SLEP initiative?

Answer. Should it be determined that a SLEP is needed, the study will provide a recommendation for performance requirements.

Question. What engine and other upgrades would you support to give the Guard the most performance enhancement to meet their missions?

Answer. Should the study determine a SLEP is required, it will identify the specific performance criteria necessary.

Question. How many aircraft would the Guard need to upgrade to meet your domestic and international mission requirements, including our drug interdiction mission along the Southwest border and elsewhere?

Answer. The Huey SLEP study will provide a recommended number of aircraft. In any case, the UH–1 will remain in the force, in some configuration, to fill the void created by the termination of the UH–60 Black Hawk procurement.

KIOWA WARRIOR

Question. For the past several years, the Congress has added OH–58D (KW)'s to the budget to meet the critical armed reconnaissance requirement. Could you tell us how these aircraft are performing?

Answer. The OH–58D Kiowa Warrior is a proven asset that partially addresses the Army's current need for a combat effective armed scout helicopter. The OH–58D performs one of the Army's most demanding tasks, aerial armed reconnaissance. OH–58D equipped units are providing real time information during the day and night. The Kiowa Warrior is the first aircraft capable of filling this 24-hour tactical reconnaissance void. In addition, the Kiowa Warrior's organic weapons provide security to the force and enables the crew to develop the situation by fire. These capabilities were demonstrated during Operation Desert Storm. However, the lack of high-altitude, hot-weather capability, limited combat range, and slow speed prevented the aircraft from performing any deep operations. The lessons learned will be applied to RAH–66 Comanche development, training, and employment.

Question. We understand that the Kiowa Warrior recently completed a 1000-hour Reliability, Availability and Maintainability Test at Fort Rucker, AL. For the record, could you provide the test results.

Answer. The Kiowa Warrior completed its 1000 hour Follow On Production Test on 20 January 1994. The test was conducted by the Aviation Technical Test Center, Fort Rucker, Alabama, using a fully equipped production Kiowa Warrior. The aircraft performed armed reconnaissance and light attack missions utilizing various flight profiles and mission configurations as identified by the U.S. Army Training and Doctrine Command (TRADOC) System Manager. It was a strenuous test, representing realistic conditions and flight profiles to include day, night and gunnery operations. The test also included 60 flight hours of cold weather testing in Fort Greely, Alaska. A full time data collector was assigned to the aircraft to capture all maintenance events. This data was then scored by an independent Reliability, Availability, & Maintainability (RAM) Working Group. The final report will not be published until July, 1994. However, preliminary results are extremely positive. Operational Availability was over 90 percent, far exceeding the Required Operational Capability (ROC) requirement of 75 percent. Mean Time Between Mission Affecting Failures (MTBMAF) was 8.7 hours, nearly twice the ROC requirement of 4.4 hours. Overall preliminary results for the 1000 flight hours of demonstrated data are as follows:

	ROC requirements	Demonstrated
MTBMAF	1.1 hour	8.7 hours
MTTR (AVUM)	2.0 hours	0.93 hours
MTTR (AVIM)	2.0 hours	4.72 hours[1]
MR (AVUM)	3.0 MMH/FH	1.86 MMH/FH
MR (AVIM)	1.5 MMH/FH	0.02 MMH/FH
OA	75 percent	90.6 percent

[1] Only three AVIM maintenance events representing less than 15 total maintenance hours were experienced during the 1000-hour test.

Key:

MTBMAF—Mean Time Between Mission Affecting Failures.

MTTR—Mean Time To Repair.
AVUM—Aviation Unit Maintenance Level.
AVIM—Aviation Intermediate Maintenance Level.
MR—Maintenance Ratio.
MMH/FH—Maintenance Man Hour per Flight Hour.
OA—Operational Availability.

Question. Defense Budgets are tight and once again the Army has not included additional OH–58D Kiowa Warriors in its budget request. In prior year testimony the Army has said that it would like additional OH–58D KWs, but didn't have the money. If funding could be found, could the Army use the additional OH–58D KWs?

Answer. Yes, we could certainly use additional OH–58D Kiowa Warriors to fill our armed reconnaissance needs for the near term. The Army has a requirement for 507 OH–58Ds stated in the Army Aviation Modernization Plan. To date, 366 helicopters have been procured. The OH–58D KW is an interim fix, allowing retirement of our day only Vietnam era fleet, until RAH–66 Comanche is fielded. Due to limited Total Obligation Authority, higher priorities preclude the Army from resourcing procurement to meet requirements, however, mission upgrades for the aircraft are currently funded. Your past support of Congressional funding for this program is appreciated.

[CLERK'S NOTE.—End of questions submitted by Mr. Wilson. Questions submitted by Mr. Young and the answers thereto follow:]

REGIONAL CONFLICT

Question. General Forster, I notice in your statement that you refer to the "thin razor edge" and the difficulty we face in being ready to meet two simultaneous regional conflicts. Many in Government and in Congress are still calling for more defense cuts. Would you give us your candid opinion on whether we've crossed that "razor edge" and how ready we are to meet two simultaneous regional conflicts?

Answer. Our future success relies, in a large part, on programs to enhance the ability of the Army to project power forward in a short period of time, to any part of the world. This means transforming our Cold War Army into a power projection force for America—making our light forces more lethal and our heavy forces more deployable. This requires that we sustain modernization. If not, our current technological advantage over potential adversaries will diminish, we will increase the risk to our soldiers and we will not be as prepared for two regional contingencies as we should be. As we reshape the Army into a smaller power projection force, modernization becomes ever more critical. From my perspective, to win "two simultaneous regional conflicts," requires us to maintain, and increase our technological edge in five areas. We must be able to project and sustain the force; protect the force; win the information war; conduct precision strikes throughout the extended battlefield; and dominate the maneuver battle. Our current modernization plans reflect our intent to meet these goals and provide equipment for a balanced total force capability.

The fiscal year (FY) 1995 budget is balanced to maintain all the components of readiness. I am concerned about equipment modernization in the future. The amount of money allocated to modernization in the FY95 budget is appropriate for the near-term, but we have clearly reached a floor below which we would degrade modernization, our technological edge and future readiness. We must be willing to invest in new equipment for the 21st century or we will place our soldiers at unnecessary risk in fighting two near simultaneous regional conflicts.

KIOWA WARRIOR

Question. General as you know, this Committee has closely followed the evolution of the armed scout aircraft requirement. We realize the ultimately, the RAH–66 Comanche is destined to fulfill the lion's share of that requirement when that aircraft is eventually fielded. In the meantime, this Committee has strongly supported adding funds for the OH–58D Kiowa Warrior to perform the armed scout mission to insure that the "go-to-war-tomorrow" Army is adequately equipped to fight to win. How has the OH–58D Kiowa Warrior performed thus far? If funds were available, could the Army use additional Kiowa Warrior aircraft?

Answer. The OH–58D Kiowa Warrior performs one of the Army's most demanding tasks, aerial armed reconnaissance, and its performance on the battlefield has been outstanding. The Kiowa Warrior is the first aircraft capable of filling the 24 hour tactical reconnaissance void. OH–58D Kiowa Warrior equipped units provided real time information both day and night during Operation Desert Storm. Today, this aircraft is dominating exercises at national and joint training centers and it consistently exceeds the Army's operational readiness standards. It is a proven asset that partially addresses the Army's current need for a combat effective armed scout helicopter. Lessons learned with the OH–58D Kiowa Warrior will be applied to RAH–66 Comanche development, training and employment.

Yes, we could certainly use additional OH–58D Kiowa Warriors to fill our armed reconnaissance needs for the near term. The Army has a requirement for 507 OH–58Ds as stated in the Army Aviation Modernization Plan. To date, 366 helicopters have been procured. The OH–58D Kiowa Warrior is an interim fix, allowing retirement of Vietnam era aircraft with no night capability, until RAH–66 Comanche is fielded. Due to limited Total Obligation Authority, higher priorities preclude the Army from resourcing procurement to meet requirements; however, mission upgrades for the aircraft are currently funded. Your past support of Congressional funding for this program is appreciated.

HAVE YAK

Question. I note in your statement that fielding of the Patriot missile system to counter the ballistic missile threat is coming along well. Can you tell us how our ability is to defend against a cruise missile threat?

Answer. Currently, Patriot Anti-Tactical Missile Capability Level-2 has some capability against the cruise missile threat. This capability depends upon the altitude, size, and counter measure technologies that the threat employs. The future Patriot Advanced Capability (PAC–3) system will have increased capability against cruise missile threats. The CORPS Surfact-To-Air Missile (SAM) system will provide cruise missile defense against more stressing threats well beyond the year 2005.

Question. We've recently been approached about supporting a program called HAVE YAK which would specifically target this threat. Are you familiar with this technology and do you feel we need it?

Answer. HAVE YAK is an Air Force Technology Demonstration program. The potential benefit to the Army Air Defense Community has not been demonstrated. No requirement for follow-on testing has been identified because the benefits for PAC–3 and CORPS SAM would be minimal. Therefore, we have not recommended Army participation.

ARMY TACTICAL MISSILE SYSTEM (ATACMS) PERFORMANCE

Question. I also notice that ATACMS production is coming along. Would you tell us how it is performing for you?

Answer. ATACMS has proven to be a highly successful, all-weather, inertially guided missile system whose combined use of state-of-the-art and off-the-shelf technology has enabled it to meet essentially all performance requirements. In January 1991, Army Central Command requested that all available ATACMS missiles be sent to support critical theater deep battle operations and suppression of enemy Air Defense operations in Desert Storm. Throughout the war, more than 30 ATACMS missiles were fired at surface-to-air sites, Surface-to-Surface Guided Ballistic (SCUD) missile sites, artillery and rocket battery positions, and tactical bridges. it was reported that all targets were either destroyed or silenced. Low-rate initial production (LRIP) deliveries were accelerated twice in support of Operation Desert Shield/Desert Storm. In February 1991, Loral Vought Systems (then LTV Aerospace and Defense) exceeded the accelerated delivery schedule by three missiles. ATACMS missile deliveries have remained three ahead of schedule ever since that time. As of February 28, 1994, 991 missiles have been delivered.

The ATACMS has a very successful test flight program consisting of the stockpile reliability program and the follow-on production test program. Currently, the ATACMS meets or exceeds reliability requirements. To date, we have had 63 successful test flights.

X–ROD PROGRAM

Question. One last program I would like to ask you about is a missile guidance and warhead improvement technology called X–ROD. Do you believe we need this technology?

Answer. This technology is important for two reasons. First, the X–ROD program enhances the lethality and survivability of our tank force by allowing engagement of armor targets at extended ranges with a high probability of kill. Second, the technology used in X–ROD provides advancements in component packaging, structure composites, aerodynamics, signal processing and radio frequency electronics which may be applicable to other ground and air combat systems. While the X–ROD technology is promising, the program will compete for scarce resources during the ongoing development of the fiscal year 1996–2001 Budget.

[CLERK'S NOTE.—End of questions submitted by Mr. Young. Questions submitted for the record and the answers thereto follow:]

INDUSTRIAL BASE FOR ARMY EQUIPMENT

Question. Last week, General Sullivan said in his prepared statement before this Committee that "I am concerned by potential problems in our industrial base . . . there is a distinct possibility that critical manufacturing capabilities may disappear." Congress has supported the M1A2 upgrade program and the Bradley vehicle base sustainment programs to help protect the industrial base for these items of equipment. What are your greatest concerns about the industrial base for Army equipment?

Answer. Army will continue to emphasize maintaining critical manufacturing technologies needed for future weapons production and maintaining a balanced organic and contractor capability for sustainment and replenishment of spares and ammunition.

Question. What elements of the base are in clearest jeopardy?

Answer. From an Army standpoint, aviation and missiles are the industrial sectors in clearest jeopardy today. Given current funding levels, we will have a break in production between production of Apache and the follow-on Longbow/Upgrade programs. In the missile sector we are using fiscal year (FY) 1994 procurement funding to cover what would otherwise be gaps in the 1995 production for Multiple Launch Rockets and Stinger missiles. The ammunition sector faces additional plant closings and consolidation unless we receive significantly more procurement funding for war reserve shortfalls.

Question. What means or methodology do you have to separate those elements of the industrial base which must be maintained for national security reasons from those elements which are not critical?

Answer. Our analysis has several criteria which we consider when deciding what capabilities are critical and need to be preserved. Is the production for military unique items? Is there a high probability that we will need this capability or technology to replenish our force structure after engagement in a conflict and will it take a long time or significant investment? Clearly, preserving capacity for follow-on production is a cardinal concern. For example, for armored vehicles, we considered the production of heavy armor and main gun systems so critical, we structured our M1 to M1A2 Abrams upgrade program in such a manner as to require continued production of these most critical components.

Question. What methods or strategies are being considered to preserve those elements of the base which are considered to be critical?

Answer. There is no universal solution but rather options to consider. Encouraging foreign military sales of complete weapons is obviously the least expensive, most efficient option. If Army cannot depend on foreign sales, then direct funding for procurement of upgrades or complete systems may be necessary to preserve industrial base capability. Technological development, especially engineering development for production, is another option. Multiple related product lines can be consolidated and we are doing this with government-owned production facilities. By consolidating available workload of similar items, we hope to preserve essential skills in technology centers where inactive production lines can be restarted as needed.

In some cases, we will preserve production lines for ammunition and military-unique systems in long term storage.

Question. What production base preservation initiatives are included in your 1995 budget?

Answer. The Army has money budgeted in fiscal year (FY) 1995 to layaway government-owned production facilities in long term storage. To cover important production gaps, the Army has also budgeted FY95 funds to extend certain active production lines and is also stretching FY94 funded production efforts.

The Army has $26.8 million programmed for decontamination and layaway of ammunition lines, most of which will be spent at various Army ammunition plants.

In the Weapons and Tracked Vehicle Appropriation, the Army has two efforts, both of which will upgrade the operational capability of Army forces and at the same time preserve critical military technologies in the industrial base. The Army has $175.1 million programmed for upgrading M1 Abrams tanks to M1A2s which will also preserve key heavy armor and main gun production know-how. In addition, the Army has $145.4 million programmed for Bradley Base sustainment which will upgrade Bradley Fighting Vehicles from A0 to A2 and keep the production line warm until we are ready to produce the A3 configuration.

In the Missile Appropriation the Army does not have specific FY95 funding requests to cover production gaps. However two FY94 efforts will be stretched to cover what would otherwise be production gaps in 1995. Specifically, in the Multiple Launch Rocket System program, the Army plans to use $15 million of the total $75 million appropriated in FY94 to stretch production. This initiative will prevent a gap between production of the current rocket and the Extended Range Rocket. Similarly, the $25 million appropriated for Stinger production in FY95 will be used to stretch production to cover a gap between the current missile and the follow-on FY96 program for Stinger Block 1 Retrofit.

Question. Are there additional production base preservation initiatives or programs which should be included in the budget but are not? Please explain.

Answer. There are additional industrial base initiatives we could have submitted for funding in our FY95 budget. We did consider such initiatives and they competed in our internal budget process, along with other Army programs. These initiatives were not funded due to affordability and the requirement to arrive at a balanced overall Army program. We fully support and stand behind our requirements as submitted in the President's budget request.

Question. As the industrial base shrinks, what do you see as the appropriate balance between the government-owned portion of the base (Government-owned ammunition plants and depots) and the private sector portion of the base? How do you intend to manage that balance?

Answer. With reduced funding levels the industrial base will get smaller. Clearly, both the government-owned and the contractor-owned portion of the base have to shrink. Beyond that, the division of work between the public and private sector is so important that DoD has commissioned major reviews to determine the minimum essential, core government-owned capability which must be preserved.

RESERVE COMPONENT EQUIPMENT MODERNIZATION

Question. Last week, Secretary West, stated that "we are vigorously pursuing modernization of the National Guard and the Army Reserve within resource limits". General Sullivan stated that the modernization funding level in 1995 is not inappropriate". If these statements are true, why does the Committee continue to receive requests for hundreds of millions of dollars each year to buy unbudgeted equipment for the Guard and Reserve?

Answer. The Army equips its units based upon a first to fight policy. Under this policy, as the first to fight units are modernized, the replaced equipment is "cascaded" to Reserve Component units after refurbishment. As modernization slows, so does cascading, but the mean time to obsolesce for fielded equipment does not slow. Further, for many systems the Army procures new equipment in sufficient quantity to permit direct fielding to the Reserve Components in accordance with the Department of the Army Master Priority List (DAMPL). This way the Reserve Component fields new equipment in the same priority sequence as its associated Active Component. The Reserve Components sometimes request through Congress additional resources to either replace or further extend the useful life of needed equipment or accept a lower pace of modernization.

Question. General Sullivan stated "The Guard and Reserve are essential to the Army's ability to fight and win the Nation's wars and we must ensure that America's Army is a seamless organization". Yet, according to the P–1R, the funding for Guard and Reserve equipment goes from $1.2 billion in 1994 to $.3 billion in 1995. How can this funding level ensure a "seamless" Army?

Answer. The Army modernizes the reserve components in two ways—direct procurement and cascading. For many systems the Army procures new equipment in sufficient quantity to permit direct fielding to the reserve components in accordance with the Department of the Army Master Priority List (DAMPL). This way the reserve components field new equipment at the same time as the active component. The Procurement Program-Reserve (P–1R) components only reflects distribution of new procurement. Further, as early deploying units are modernized under the first to fight policy, equipment from those units are "cascaded" to the reserve components. As the active component downsizes, assets will continue to cascade to the reserve components in DAMPL priority.

Question. As you address the need to equip a "seamless Army", what in your opinion are the most troublesome equipment shortfalls of the reserve components?

Answer. Important items being addressed in this area are: providing modern, compatible and secure communications with Single Channel Ground and Airborne Radio Systems to all combat, combat support and combat service support units; modernizing the utility helicopter fleet with Black Hawk; upgrading our truck and trailer fleet to ensure our combat forces can conduct sustained combat operations; providing night vision devices for continuous operations capability; and continued, paced modernization of early deployers' combat equipment.

PROGRAM TERMINATIONS

Question. The Army has submitted to the Committee a list of 53 programs/systems that have been terminated in connection with the 1995 budget. We will insert that list in the record at this point.

[The information follows:]

53 PROGRAMS/SYSTEMS KILLED

1	100 TON CRANE	96
2	20K LOW ALTITUDE RETROROCKET SYSTEM	97
3	ADVANCED CARGO AIRCRAFT ENGINEERING DEVELOPMENT	97
4	AN/VAS-XX DRIVERS VISION ENHANCER	99
5	ARTIC FORWARD AREA REFUELING SYSTEM	97
6	ARTIC FUEL SYSTEM SUPPORT	97
7	AVENGER	97
8	ARMY WWMCCS INFORMATION SYSTEM MODERNIZATION	95
9	BLACKHAWK MULTI-YEAR PROGRAM	98
10	RIBBON BRIDGE TRANSPORTER	96
11	CHEM AGENT DETECTOR NETWORK XM23/XM2	95
12	TACTICAL EXPLOITATION OF NATIONAL CAPABILITY (TENCAP)	96
13	CORPS THEATER ADP SERVICE CENTER -II (CTASC-II)	96
14	DECEPTION DEVICES & CLOSE COMBAT DECOYS	95
15	DIVING EQUIPMENT	99
16	ERC A SHORTAGES/ MATERIAL HANDLING & MAINTENANCE EQUIPMENT	95
17	EXTREME ENVIRONMENT KIT	97
18	FORWARD ENTRY DEVICE	96
19	FLIGHT DATA RECORDER	95
20	GROUND BASED SENSOR ON HMMVW	96
21	SMOKE GENERATOR	95
22	HEAVY EQUIPMENT TRANSPORT SLEP	97
23	HMMWV PROCUREMENT	96
24	AVONICS (IDM, HAVEQUICK II)	95
25	LIGHT AIR CUSHIONED VEHICLE (LACV-30) SLEP	96
26	MEDIUM TRUCK SLEP	95
27	MISSION PLANNING	96
28	MLRS EXTENDED RANGE ROCKET	98
29	MLRS LAUNCHER	95
30	MLRS ROCKET	95
31	MISSILES AVIONICS	99
32	NAVSTAR GPS	96
33	NON-COOPERATIVE TARGET RECOGNITION	95
34	NON-LINE OF SIGHT ANTI-TANK	95
35	OBSTACLE AVOIDANCE SYSTEM VOICE	95
36	ON BOARD WATER RECOVERY KIT	99
37	PLS TRAILER	96
38	PRECISION APPROACH RADAR	95
39	QUICK ERECT ANTENNA MAST (QEAM)	95
40	RADIAC-ADV AIRBORNE	98
41	RADIOLOGICAL WATER MONITOR	99
42	REMOTE ORDINANCE NEUTRALIZATION DEVICE	98
43	SATELLITE TERMINAL, ADV MPK UHF	98
44	STINGER MODIFICATIONS	95
45	TACTICAL UNMANNED GROUND VEHICLE	96
46	TANK AMMO 830A1	95
47	TANK CANNON 140 MM	95
48	TRI-SERVICE STANDOFF ATTACK MISSILE	97
49	THEATER TACTICAL AREA COMMUNICATIONS SYSTEM (TTACS)	95
50	TUG, HARBOR, INLAND WATERWAYS	96
51	USA TAC C2 SYSTEM EXPERIMENTATION SITE	95
52	VOICE ALTITUDE WARNING SYSTEM	96
53	WATER PURIFICATION UNIT ROWPU 3K GPH	95

Question. For the record, identify those programs that were terminated because of budget constraints and those which were terminated because of force structure reductions, changed doctrine, or other reasons.

Answer. The list of 53 Army programs terminated in the Future Year Defense Plan submitted to the committee was accurate as of September 15, 1993, when the revised Army research, development and acquisition program for Fiscal Years (FYs) 1995 through 1999 was submitted. Since that point in time, the Army has worked within the Department of Defense (DoD) to ameliorate these terminations. The number of programs terminated in connection with the FY 95 budget is 20. All program curtailments were based on affordability.

Question. We have already learned that one of the items on the list, the Extended Range MLRS rocket, has not really been terminated. What other items on this list are not really terminated? Why are these items included on the list?

Answer. It is important to note that the list of 53 curtailments was accurate at one point in time and extended from FY 95 to FY 99. Subsequent to submission of the FY 95 president's Budget the Army has begun preparation of the FY 96–01 Program Objective Memorandum (POM). During this process selected programs that were curtailed in the FY 95 President's Budget process are again under review to determine which programs should be restructured and/or reinstated based upon our assessment of the Army's capability to execute the National Military Strategy. Selected programs still under review include the 100 Ton Crane, Extended Range Multiple Rocket Launcher System Rockets and Inland Waterways Harbor Tug.

ACQUISITION REFORM

Question. Acquisition reform is one of the major themes of the 1995 budget. General Forster, you say in your statement that the Army has identified forty-one acquisition regulations for potential elimination. Can you give us some examples of these regulations?

Answer. After our initial analysis of our acquisition regulations, we realized that some were redundant due to the existence of the Department of Defense regulations; some could be combined into one regulation; and some were no longer relevant. We were able to eliminate eight regulations due to the publication of Army Regulation 70–1, Army Acquisition Policy. Nine other regulations were rescinded. Some examples of acquisition regulations which we have rescinded are:

a. Army Regulation (AR) 70–10, Test & Evaluation During Development & Acquisition of Materiel.

b. AR 70–11, Dissemination of Scientific and Technical Information.

c. AR 70–29, Production Testing of DSA Managed Items.

d. AR 700–96, Requisition and Interface of Engineering Data.

Question. What is your schedule for getting rid of the twenty-two regulations which still remain to be reviewed?

Answer. The Army has established a plan to streamline and reduce internal regulations. We will review one-third of the remaining publications each year and our goal will be to reduce/streamline one-half of the publications reviewed. This is a very ambitious plan but we feel it is in keeping with the National Performance Review.

Question. What other efforts is the Army undertaking in the area of acquisition reform?

Answer. We continue to refine the acquisition process. Our goal is to have an acquisition system agile enough to buy the latest technology, at comparable commercial prices, from the broadest possible industrial base. To accomplish this, we must have a work force knowledgeable of current business practices and technology, and organized for the fast paced action common in the commercial market place today. All of the actions I outlined in my statement focus on this goal. I mentioned "Roadshows" in my statement. We have trained over 4000 Army acquisition personnel in the new principles and practices, the training continues. We have developed "templates" to help guide in development of Requests for Proposals devoid of non-value added requirements, and that tell the contractor "what" we want, not "how" to do it. We have issued policy that states our preference for commercial specifications and standards, and products, over military unique requirements. We have changed organizational structures and reduced reporting requirements to speed the flow of information and decisions. We have introduced concurrency and early involvement across the entire continuum of the acquisition cycle to smooth traditional start/stop methods. Reform is a continuous, and today, an accelerating process.

Question. On page 17 of your statement you say that "We are eliminating the approximately 30 percent premium we pay for goods and services over what a comparable product built the commercial way would cost." What are the major deficiencies of the process that got you into a situation where you have been paying a 30 percent premium?

Answer. Over the years, the proliferation of legislative and self imposed, regulatory requirements have driven up the cost of doing business with the government by adding requirements not found in the customary, commercial buyer-seller relationship. The result has been a wall of paper attempting to achieve an unobtainable goal, total risk avoidance. We pay a premium for these additional requirements. Our focus has been to change the process and mind set to one of prudent risk management. This involves re-engineering the process and re-education of our work force. As I mentioned earlier in testimony, we have achieved notable successes. We are committed to the change process while at the same time recognizing that the mind set and policies engendered over twenty years cannot be whisked away overnight. We are making the changes within our authority. We will need your support on legislative issues.

Question. Secretary Perry told the Committee that the Administration supports a package of legislative proposals for acquisition reform. Are any of these proposals of particular interest or concern to the Army? Please explain.

Answer. The Army supports all of the recommendations in the Secretary's legislative package. Some that we are especially interested in are: An increase in the threshold for the use of simplified purchase procedures to $100,000 would be a significant benefit. The Army's concern is with the thresholds of a number of socioeconomic and other government-unique laws; if the thresholds for their application are not also raised to $100,000, the benefits of raising the simplified purchase threshold will be greatly diminished. The Secretary's proposals regarding Sections 2358 and 2371 of 10 U.S.C. would provide needed clarity and guidance regarding the use of "other transactions" in those instances where the use of a grant, cooperative agreement or contract is not appropriate. The proposed changes would increase the flexibility of the Army in being able to select various entities with whom research can be carried out.

Acceptance of Secretary Perry's recommendation regarding proposed changes to 31 U.S.C. 3553(b)(2)(a) would be helpful. This pertains to the amount of time an agency has to prepare an administrative report in the case of a bid protest.

The Army also supports the Administration proposals on commercial products and supports approval of the Pilot Programs and requested waivers.

Question. Are there ways that this Committee can help the Army in its efforts to foster acquisition reform?

Answer. Yes. Your strong support of acquisition reform initiatives before the House can have a long term, positive impact. Pursuant to Section 809 of Public Law 101–510, the Defense Department has submitted seven Acquisition Pilot Programs. The Army program is the Fire Support Combined Arms Tactical Trainer. Your support in including the Pilot Programs and the requested waivers in the acquisition reform legislation pending before the Committee will allow us to gain valuable experience in using commercial products and business practices to meet our requirements.

JAVELIN SYSTEM

Question. The Javelin is a medium-range, manportable antitank system designed to replace the Dragon missile. The fiscal year 1995 budget request for the Javelin is $131.1 million for 374 missiles. The fiscal year 1994 budget request for Javelin was originally funded at $207.3 million for 1000 missiles at a recurring hardware unit cost of $188.9 thousand per all up round missile. Fiscal year 1995 budget justification material now shows the Army procuring only 703 missiles in fiscal year 1994 for the same appropriated level of $207 million at a unit cost of $237.8 thousand, an increase of 25.8 percent. Explain to the committee the reasons for the reduced buy of Javelin missiles in fiscal year 1994 and the large increase in the recurring hardware unit cost when compared to last year's estimates.

Answer. The fiscal year 1994 budget request was based on a procurement objective of 58,000 rounds and 5,000 Command Launch Units (CLUs). Because of force reductions and budgetary constraints, the fiscal year 1995 budget justification material reflects reduced quantities of 26,600 rounds and 2,800 CLUs. The U.S. Marine Corps also reduced round quantities from 8,484 to 7,011, but increased CLUs from 917 to 1055. Budget justification material also shows that Department of Defense induced budgetary constraints forced the Army to cut Javelin's funding level each year in fiscal years 1995–1999, a total in excess of $800 million. These reduced quantities and budget cuts, coupled with higher prime and subcontractor hardware quotes, higher burden rates due to the declining defense business base, increased depot maintenance equipment and new equipment training estimates, and the addition of Interim Contractor Support, have all contributed to significantly increasing the procurement unit cost. As a result, the Army can procure only 703 rounds in fiscal year 1994, given the same funding level.

Question. What is the current total inventory objective and average unit procurement cost for the missile? How does this compare to the program baseline figures?

Answer. The procurement objective is 26,600 rounds and 2,800 CLUs. Based on the fiscal year 1995 President's Budget, the average procurement unit cost is $98.6 thousand for the round and $192.6 thousand for the CLU. The fiscal year 1994 budget request was based on an average procurement unit cost of $62.6 thousand for the round and $119.5 thousand for the CLU. The Javelin baseline has experienced a Nunn-McCurdy threshold breach. The program is being recertified and the baseline is being revised.

Question. Is this still an affordable program for the Army?

Answer. The Army is committed to the Javelin system. No other antitank weapon in the world today provides the gunner with a manportable, fire-and-forget, top attack system that greatly increases his survivability due to the greater range, increased lethality, and soft launch capability. The Army owes the Javelin system to its early entry and dismounted forces, as the Dragon no longer holds the soldier's confidence.

Question. Bring the Committee up to date on the results of preproduction qualification and initial operational testing of the missile. Is all testing now complete and are there any implications for production?

Answer. All development testing, as well as the Initial Operational Test and Evaluation, was complete in December, 1993. Both test programs demonstrated that the tactical system met or exceeded most criteria for effectiveness, survivability, portability, and operational suitability. The Field Tactical Trainer, although providing very good training, requires both performance and durability upgrades, which will be fixed and incorporated prior to production. The Javelin system is ready for production.

Question. Budget justification material indicates that the Army plans to acquire 374 Javelins in fiscal year 1995, down from 703 in fiscal year 1994. The request also indicates that this quantity will rise to between 800 and 900 missiles annually in the program outyears. Explain the rationale for inducing this schedule perturbation in fiscal year 1995 in only the second production year of the program. What risks are there to a non-mature manufacturing process by proceeding in this fashion?

Answer. The Army was forced to take some drastic actions to align budget authority with program priorities. The Javelin program was decremented by over $800 million in the Program Objective Memorandum years, to include fiscal year 1995. A quantity reduction, coupled with the reduced fiscal year 1995 funding level, permits the procurement of only 374 missiles. Risk is minimal in producing the lower quantity of missiles. However, additional costs are incurred since fixed costs must be spread over limited quantities in the beginning of the production program.

MULTIPLE LAUNCH ROCKET SYSTEM (MLRS)

Question. The budget includes no funding for the procurement of either rockets or launchers for the Multiple Launch Rocket System. What is the Army's requirement for MLRS launchers, for all force packages, and what will have been procured through fiscal year 1994?

Answer. The Army's requirement for fielding MLRS launchers, for all force packages, is 1623. As of fiscal year 1994, the Army will have procured 819 launchers for active and reserve units.

Question. Does the Army foresee any requirements for MLRS launchers in the future? If not, is it acceptable to shut down the production base for MLRS launchers?

Answer. Yes, the Army sees a requirement for MLRS launchers in the future. As stated above, the Army still requires 804 launchers to complete its total force fielding. Fiscal constraints have precluded funding for launchers in the current President's budget.

Question. On the other hand, if the Army expects to procure additional Multiple Launch Rocket System (MLRS) launchers in the future, how will the production base be preserved so that option will be available in the future?

Answer. At this time, there are no plans to shut down the launcher production facility. If, in the future, it is necessary to shut down the facility, with intentions to restart it at a later date; a warm base launcher line study team would be formed. This team would study the situation similar to the rocket warm base team currently in progress, and then make recommendations.

Question. What is the impact of no MLRS launcher procurement on the production base for the Bradley Fighting Vehicle?

Answer. The Bradley Fighting Vehicle (BFV) business base did not plan for MLRS launcher production after fiscal year 1994. There is no additional BFV impact from a MLRS launcher production stoppage.

Question. What would be a minimum MLRS launcher procurement in fiscal year 1995 in order to preserve future production options?

Answer. Twenty four launchers at a cost of $108.5M above 1995 President's budget submission.

Question. What will be the inventory of Multiple Launch Rocket System (MLRS) training and tactical rockets after the fiscal year 1994 procurement and what are the current requirements for each?

Answer. At the end of fiscal year 1994, the Army will have over 438,000 tactical rockets in its inventory, which will meet the Army's acquisition objective. The Army will also have procured over 43,000 reduced range practice rockets, which will be enough to support training requirements through 2004.

Question. Does the Army still intend to procure the Extended Range Rocket (ERR) for the Multiple Launch Rocket System (MLRS)? If so, what are the current development and testing milestones for this system and when will the first production contract be awarded?

Answer. The first production contract is scheduled to be awarded the second quarter of fiscal year 1997. The current milestones are as follows:

Nov. 92—Milestone II
Jul. 93—Preliminary Design Review
Sep. 94—Flight tests start
Nov. 94—Critical Design Review
Jan. 97—Low Rate Initial Production

Question. For the record, provide the current Research and Development (R&D) and procurement funding profile for ERR showing both dollars and quantities.

Answer. The following funding profile, with procurement funds based on the planned Program Objective Memorandum (POM) build, is in millions of dollars:

	Fiscal year—					
	1995	1996	1997	1998	1999	Total
RDTE	20.3	18.4	17.2	....	....	55.7
PROC	....	[1] 20.0	25.5	46.5	50.0	152.0
Quantities	....	....	(834)	(1,776)	(1,866)	(4,476)

[1] Self destruct fuze facilitization, refacilitization of Camden Arkansas, and Government qualification testing.

Question. Is it possible to accelerate the Extended Range Rocket (ERR) program? If so, what are the advantages and disadvantages/risks for such an approach?

Answer. While it is possible to accelerate the production decision on ERR from second quarter fiscal year 1997 to third or fourth quarter 1996, there are inherent risks associated with that acceleration. At this time the Army believes it is prudent to stay with the existing development schedule to mitigate risks. Primary risks associated with acceleration include:

1. Wind Measuring Device (WMD). This device is necessary to ensure that the ERR meets the user's accuracy requirements. The WMD is currently regarded as the highest risk item, both technically and programatically. If the WMD is not available to mount on the MLRS launcher, coincidental with ERR fielding, the accuracy requirements for ERR may not be met. Rather than accept this risk, the Army believes that the current schedule will allow development, testing and qualification of the WMD on a schedule that accommodates risk and ensures the full capability of ERR is achieved at fielding.

2. Self Destruct Fuze Facilitization. Currently this effort is planned for fiscal year 1996. Fiscal year 1995 funding could be used to support early facilitization to ensure a timely ERR production start in fiscal year 1997, even if rocket production cannot be accelerated into fiscal year 1996.

Advantages associated with an acceleration of ERR production include:

1. Achievement of an improved warfighting capability almost one year earlier.

2. Reduction in the period that the Army would be maintaining a warm line at the contractor's facility by almost one year, with commensurate cost savings generated as a result of this reduced period of warm line.

Disadvantages to the acceleration of ERR include:

1. Risk that the WMD would not be available at initial operational capability, with the result that rockets would be produced

that would not meet their accuracy requirements (until the WMD was qualified and produced).

2. Risk that other "unkown unknowns" could emanate from the ERR development and test program that could not be corrected with the "accelerated" ERR Engineering and Manufacturing Development (EMD) program timelines, and which could be avoided based on the current development schedule.

3. The Army is embracing a program which would call for additional near year funding (fiscal year 1995 and fiscal year 1996) with the understanding that additional near year funds may not correct all the challenges in time to meet the accelerated schedule.

Question. How would the Army go about accelerating the Extended Range Rocket (ERR) program and what would be the funding profile for such a program?

Answer. In order to accelerate a production decision from 1997 to 1996, it would be necessary to provide 1995 funds ($20.0 million) to accelerate the self destruct fuze facilitization and Camden Arkansas unique ERR production processes, for example, tooling/processes necessary to load a grenade with self destruct fuze into the warhead. Additionally, in 1996, $3.0 million, within the Multiple Launch Rocket System (MLRS) Mod funding line, would be required to procure the first battalion set of meteorological sensors, as well as $24.7 million (834 rockets) for initial rocket procurement. As noted in question 33, the Army believes that initial procurement of ERR in 1997 will mitigate any technical risks associated with ERR development and testing.

Question. What is the estimated shelf life of the MLRS rocket and when does the Army expect to have to procure new rockets or refurbish those already in the inventory?

Answer. The shelf life of the MLRS rocket was increased in 1991 to 15 years. Based on technical analysis, test data and prediction techniques, it is possible that the shelf life may be extended again in the future. From a strategic planning perspective however, the Army has dovetailed the ERR initial procurement to coincide with the initial shelf life expiration of the current version of the rocket.

Question. Last year, the Congress appropriated $75 million to procure as many MLRS rockets as possible. How does the Army intend to use these funds?

Answer. The Army plans to use $57.3 million of the fiscal year 1994 funds to procure Reduced Range Practice Rockets (RRPR) and to reserve $15 million for fiscal year 1995 and fiscal year 1996 warm line. The $15 million estimate was provided by the MLRS rocket contractor and validated by the MLRS warm line study team. Reservation of $15 million guarantees that, in the absence of additional funding in 1995 and 1996, the rocket production base is preserved and positioned to begin ERR procurement in 1997. Additionally, the Army plans to internally generate funds from RRPR Value Engineering Change Proposal savings and the sale of fiscal year 1993 tactical rocket assets to Foreign Military Sales customers, for use in fiscal year 1994 to procure more RRPRs. Given the $57.3 million from the 1994 appropriations and funds internally generated by the Army, 1994 RRPR procurement will be between 7000–7500, based on final negotiations with the contractor.

Question. If no additional rocket procurement is funded in fiscal years 1995 and 1996, how does the Army intend to preserve the production base for rockets until the Extended Range Rocket (ERR) enters production?

Answer. The actions discussed in the previous question, along with the Multiple Launch Rocket System (MLRS) contractor's offer to voluntarily slide the delivery schedule for the fiscal year 1993 procured Reduced Range Practice Rocket (RRPR) and tactical rockets at no additional cost to the Government, will guarantee that the Army can bridge the gap to ERR procurement in fiscal year 1997.

The MLRS program office has established an independent Government team chartered to analyze the production gap problem. The team is currently evaluating the feasibility of implementing an industrial base maintenance program that will fill any identified production gap until ERR initial procurement. A synopsis of the maintenance program is as follows:

1. Program will be applicable to Loral Vought Systems Camden Arkansas facility as well as the major subcontractor facilities involved in ERR production.
2. Program will be tailored so appropriate production facilities applicable to ERR will maintain qualification status during the gap.
3. Qualification will be assured by maintaining critical skills and processes. The hardware produced necessary to exercise the required equipment will be incidental to the maintenance program.
4. The program will help to reduce the risk associated with transitioning from Engineering and Manufacturing Development to ERR production. This will be achieved through activities being dedicated toward ERR production phase.
5. The program will reduce the start-up costs necessary to initiate ERR production as compared to starting production from a "cold" facility.

This program has, as its primary focus, those processes/skills/facilities unique to ERR production. Any facet of the current MLRS production process that is not germane to ERR is tangential to the warm line issue and would only be maintained if foreign customers procure the basic MLRS rocket.

Question. Tell us about the "Multiple Launch Rocket System (MLRS) Warm Line Study" and how it was conducted. What are the conclusions of this study?

Answer. The MLRS Program Manager established an independent Government team chartered to analyze the production gap problem, and to provide recommendations concerning the best path to maintain qualified capabilities pending Extended Range Rocket (ERR) production. The study team is currently investigating the feasibility of implementing an industrial base maintenance program that will fill any identified production gap until ERR production. The focus of the team is on critical skills, processes, and manufacturing capabilities necessary to begin production of ERR. Given that a large percentage of the ERR production requirements are common to the basic rocket production, the warm line effort will ensure that those requriements are prioritized, along with those processes and skills unique to ERR.

The Contractor established a corresponding study team to work with the Government team to respond to questions and to support joint scenarios. Contractor personnel participated in the site visits conducted by the Government team at critical subcontractors. This joint effort will ensure that the most feasible and cost-effective approach is identified and implemented.

The Government initiated the study by identifying ten feasible alternatives based upon in-house knowledge of the MLRS program. The team then conducted a macro analysis of the alternatives utilizing a wide range of criteria ranging from cost and schedule impact to qualification issues and impact to the ERR program. The analysis resulted in the original alternatives being reduced to three for further development.

A micro analysis approach was then conducted to scrutinize the three neck-down alternatives. This analysis encompassed visits to the prime and critical subcontractor facilities to ensure their concerns and problems were sufficiently addressed. The Government team considered such factors as employment projections and contractor business base as part of the micro analysis. A review of the contractor's industrial base requirements was included to ensure that the necessary production capabilities would be available to support the ERR program.

The Government team encompasses a wide cross-section of personnel from the United States Army Missile Command and the MLRS Project Office. The team is comprised of personnel representing production, product assurance, safety, program management, and cost interests. Accepted industrial engineering practices were utilized during the analysis of alternatives.

During the study, cost estimates submitted by the contractor have been analyzed by the Government team with input provided by the contractor team. The analysis has resulted in the identification of a more cost-effective approach addressing the production gap problem.

The study is on-going with final conclusions and recommendations expected in April 1994.

Question. At the low production rate forecast for the Extended Range Rocket (ERR) what will these rockets cost compared to the current tactical rocket and what confidence do you have the contractor can produce economically at such low rates?

Answer. At low rates of production and a planned total buy less than one-quarter of the basic rocket quantity, the ERR average unit cost (AUC) is $16,404. Whereas, the cost of the current tactical rocket, in fiscal year 1993 dollars is $7,062. It should be noted that the ERR incorporates a self destruct fuze, which adds over ten percent to the unit price. Additionally, over 450,000 basic rockets were procured, at favorable procurement conditions, including multiyear contracts that spanned ten years of procurement. As part of the changing environment relating to rocket procurement, the contractor has begun reducing the workforce and the overhead to adapt to the realities of the new environment. As a baseline, the contractor has assumed a maximum annual production rate of 6,000 ERR, versus the current capacity that has seen 72,000 rockets produced in one year.

HELLFIRE MISSILE SYSTEM

Question. Hellfire is an air-to-ground missile system which is also the primary anti-tank armament for the AH–64 Apache Helicopter. The fiscal year 1995 budget requests $121.6 million for 830 Hellfire II missiles. Included in this total is $41.9 million for long-lead and initial production facilitization for the Longbow version of the Hellfire missile.

General, the current Hellfire production schedule made available to the Committee in the fiscal year 1995 justification material shows the following total monthly production figures:

October 1993—412
November 1993—0
December 1993—0
January 1994—574
February 1994—12
March 1994—332
April 1994—0
May 1994—362
June through Oct. 1994—0
November 1994—12

Out of all Defense Department missile systems the Hellfire program seems uniquely challenged in maintaining a smooth, consistent production profile. Explain to the Committee the reasons for this erratic schedule.

Answer. The figures presented to the Committee reflect the delivery profile of Rockwell International Corporation, the only current producer of the Hellfire F missile configuration. Beginning in September 1993, the contractor made a business decision, based on his projections of future requirements, to reduce his internal production rate from 22 missiles per day to 8 missiles per day. This rate effectively reduced each month's lot size from approximately 450 missiles to less than 200 missiles. Given this reduced production rate, the Air-to-Ground Missile System Project Office decided to conduct Lot Acceptance Testing, normally performed after each month's build, only when a sufficient quantity of missiles had been accumulated to make the testing cost effective. The erratic delivery schedule has therefore been caused by missiles that may have been held for up to two months. In conclusion, the contractor has maintained a smooth production rate, only the deliveries to the government have been erratic. The contractor has not been behind on deliveries to the contract schedule since September 1991, and since then has maintained deliveries six months ahead of contract requirements.

Question. Is this profile driving the requirement of budgeting for long-lead items on the Longbow Hellfire this year; in order to cover Army induced production gaps on the program?

Answer. No, long-lead items are required only to maintain the critical suppliers and associated skills participating in the Longbow development program. The development contract for Longbow is scheduled for completion in May 1995. Many of the critical Longbow Hellfire suppliers will complete their development deliveries well in advance of this date. The Low Rate Initial Production (LRIP) contract award is scheduled for November 1995. Without a

Long-Lead Time Item (LLTI) contract award in November/December 1994, the program may find that several critical suppliers are not available to support the program due to the length of time between the completion of their development effort and the LRIP contract award. If the critical suppliers are not available, there will be delays and potential quality problems in establishing the production line.

Question. What is the Foreign Military Sales (FMS) outlook for the Hellfire II missile?

Answer. The following countries have expressed an interest in Hellfire II Class Missiles:

County:	*Quantity*
Israel	700
Saudi Arabia	900
United Arab Emirates	650
United Kingdom	800
Taiwan	1,000
Netherlands	800
Greece	300
Egypt	250

Any commitment to foreign sales is contingent upon successful production qualification testing at the end of this year.

Question. Under current Longbow radar development plans, actual installation of radars on Apache helicopters will begin in the fourth quarter of 1997. What implications are there for the Longbow missile production program if this schedule should slip?

Answer. There would be minimal impact to the Longbow Hellfire missile production. The delivery of missiles for the fiscal year 1995 long-lead material/fiscal year 1996 low rate initial procurement buy of 364 missiles is scheduled to begin second quarter fiscal year 1997 and continues through third quarter fiscal year 1998. Because of the low rate, associated with the fiscal year 1996 and fiscal year 1997 (1050 missiles) procurements, the missiles would be stockpiled or used on Longbow Apache aircraft without the Fire Control Radar installed. For full system effectiveness, the Longbow Fire Control Radar is needed. However, the missiles can be used effectively without the fire control radar by using the Target Acquisition Designation System (TADS) on the Longbow Apache helicopter.

Question. Why is long-lead material necessary in fiscal year 1995?

Answer. The development contract for Longbow is scheduled for completion in May 1995. Many of the critical Longbow Hellfire suppliers will complete their development deliveries well in advance of this date. The Low Rate Initial Production (LRIP) contract award is scheduled for November 1995. Without a Long-Lead Time Item (LLTI) contract award in November/December 1994, the program may find that several critical suppliers and associated skills are not available to support the program due to the length of time between the completion of their development effort and the LRIP contract award. If the critical suppliers are not available, there will be delays and potential quality problems in establishing the production line.

Question. For the record provide a detailed breakout of all long-lead items that need to be acquired with fiscal year 1995 funding.

Answer. The following items will be acquired with fiscal year 1995 funds:

Electrical Components For Inertial Measurement System;
Castings For Gimbal And Control Section;
Electrical Components For Transceiver;
Components For IF Receiver;
Electronic Components For Exciter;
Components For Digital Signal Processor; and
Cyanate Ester Board Material.

TUBE LAUNCHED OPTICALLY TRACKED WIRE GUIDED (TOW) 2 MISSILE

Question. The TOW IIB is used to fulfill the heavy antitank assault weapon system requirement for close combat maneuver forces. The fiscal year 1995 budget request is $27.8 million to cover expenses related to the shut-down of the TOW production line. What is the present inventory objective for the TOW missile to include both the Army and the Marine Corps?

Answer. The inventory objective for the Army is 119,799; Marine Corps aviation, 7640; and Marine Corps ground, 38,021.

Question. What is the total inventory today and at the conclusion of fiscal year 1993 deliveries?

Answer. The current Army inventory as of March 1994 is 80,752. The Army inventory at the conclusion of the fiscal year 1993 funded delivery period will be 106,856, including new TOW 2A/2B production and TOW 2 to TOW 2A retrofits.

Question. What is the status of the fiscal year 1994 production contract?

Answer. A contract will be awarded within thirty days of release of funds by the Office of the Secretary of Defense.

Question. When the additional fiscal year 1994 procurement funding of $48M for TOW 2B procurement is released, how many TOW 2Bs will be acquired?

Answer. A minimum of 1650 TOW 2B missiles will be procured. This number could increase if additional foreign military sales (FMS) materialize.

Question. What is the status of TOW foreign military sales for 1993 and 1994? What is the outlook for 1995?

Answer. FMS sales for 1993 were 4,618. FMS sales for 1994 currently include 1,000 direct sales missiles and 1,675 on approved cases. Sales for 1995 could range between five and ten thousand missiles. However, there are no implemented cases at this time. Some countries show a reluctance to purchase additional missiles without future United States involvement.

M1 TANK ENGINE PROGRAM

Question. Last year, the Congress directed the Department to investigate industrial base questions concerning the engine for the M1 series of tanks. What is the status of that effort?

Answer. The Under Secretary of Defense for Acquisition and Technology established a Blue Ribbon Panel, under the auspices of the Defense Science Board (DSB). This DSB Task Force on Tracked Vehicle Industrial Base was requested to examine the issues concerning the public and private industrial base for tracked vehicles and tank engines, and study viability of the relevant industrial base and propose a definitive plan of action, cost estimates, and cost-effectiveness trade-off analysis and an implementation schedule for Congressional review. The task force will provide their final report by the end of April 1994.

Question. What are the results of engine tests that the Army was conducting to determine the performance and reliability of overhauled engines?

Answer. The primary focus of the Army's 25 overhauled engine evaluation is to determine baseline durability of an overhauled engine and identify cost effective overhaul process improvements. The results to date are as follows:

Location	Miles	Hours	Number of failures
Aberdeen Proving Ground (APG)/Yuma Proving Ground (YPG)	48591	4604	12
National Training Center	8310	2908	7
Total	56901	7512	19

	All sites		APG/YPG
Mean Miles Between Failures (MMBF)	2995		4049

The baseline engine results shown above, when combined with other powertrain components, do not meet the Army's Abrams tank powertrain durability requirement of 5770 MMBF. Based upon detailed analysis of each failure, a series of quality, design, process and hardware improvements are being incorporated into an improved overhaul engine program. Detailed projections using this improved overhaul process should provide an overhauled engine with a 170 percent durability improvement at a modest 25 percent increase in overhauled engine unit cost. This improved overhauled engine will greatly surpass the powertrain durability requirement. A test of these engines to confirm recommended improvements should begin in September 1994.

Question. Army Acquisition Chief, George Dausman, has told the Office of the Secretary of Defense (OSD) that the Army has no requirement for additional new tank engines. Does the tank engine industrial base need to be retained? If so, how do you propose to do it?

Answer. The DSB Task Force on Tracked Vehicle Industrial Base will provide a recommendation on the need to maintain an AGT 1500 engine industrial base.

Question. What does the Army intend to do with the $17 million provided last year for the tank engine industrial base initiative?

Answer. The Army plan is to award a Long Lead Material (LLM) contract to Textron Lycoming for the minimum assets to support production of ten per month starting in June 1995 (40 sets). The initial award will be $500 thousand for termination liability through May 31, 1994. This LLM contract will include two production options, one of which will be exercised after the Blue Ribbon Panel completes deliberations and publishes its recommendations.

Option A: Increase LLM to support production of 120 new production engines awarding up to $17 million. (This requires additional funding in fiscal year (FY) 1995 to fully execute.)

Option B: Award $4 million to continue production of the LLM into provisioned spare part configuration.

Question. The FY95 budget funds the beginning of Phase II of the M1A2 tank upgrade program. What does this budget assume with respect to tank engines for this phase?

Answer. All M1A2 upgrade program budgets assume use of AGT 1500 engines overhauled at Anniston Army Depot.

Question. What additional funding would be required in FY95 and for the completion of the M1A2 tank upgrade program if new or remanufactured engines were to be include?

Answer. Buying remanufactured engines instead of depot overhauled engines would require $60 million more in FY95 and $37 million more per year thereafter. Buying new engines in place of depot overhauled engines would require approximately $70 million more in FY95 and about $65 million more per year thereafter.

M1 TANK PHASE I UPGRADE PROGRAM

Question. Congress has previously appropriated funds for four prototypes of an M1 tank upgraded to the M1A2 configuration. What is the delivery and test schedule for these prototypes?

Answer.

Pilot	Delivery	Test
No. 1	March 1994 (delivered)	Being used by General Dynamics Land Systems (GDLS) as an engineering asset (software/hardware).
No. 2	May 1994	June 1994–April 1995, 4000 mile contractor test at Aberdeen Proving Ground (APG): May 1995—End of contract—logistics/engineering asset.
No. 3	July 1994	August 1994–February 1995, 2000 mile Government test at APG: February 1995–October 1995, White Sands Missile Range Electro Magnetic Interference/Nuclear: November 1995—End of contract—GDLS use as engineering asset.
No. 4	September 1994	Remain at Lima Army Tank Plant as facility vehicle.

It should be noted that primary purpose of the Pilot Program is to validate the manufacturing/assembly process. It was determined that four vehicles were required of which three are being utilized for system test.

Question. Phase I of the upgrade program includes production of 206 vehicles and four prototypes. Last year, you testified that the total procurement cost of this phase was "locked in" at $772 million. What is your current estimate and why has it changed?

Answer. The current estimate is $851 million. Additional funding for spares added about $10 million, more training devices added another $23 million, and $17 million was provided for the tank engine industrial base initiative, although expenditure of tank engine funds is dependent on final report of the Defense Science Board Task Force. There was also a fiscal year (FY) 1993 decrease of about $4 million offset by an FY95 increase of about $33 million. The extra funding in FY95 was added to ensure uninterrupted armor production for Phase I and Phase II.

Question. For the record show a procurement funding profile for the Phase I program.

Answer. Phase I funding covers the period from FY91 through FY95. Long lead funding for Phase II begins in FY95. The following funding profile addresses only Phase I funding, with one exception, Depleted Uranium (DU) Armor production:

	Fiscal year—					
	1991	1992	1993	1994	1995	Total
Quantity	....	....	....	172	34	206
GA0750 Upgrade	196.6	225.8	156.0	96.7	122.2	797.3
GB1300 Training devices	....	....	....	24.6	17.1	41.7
GA0151 Spares	....	....	....	1.6	....	1.6
GC0161 Spares	....	....	....	....	10.8	10.8
	....	....	....	....	....	851.4

A unique situation has developed regarding DU Armor. In order to retain the production facilities, we will begin procuring armor packages for Phase II in FY94. Therefore, the above funding includes the procurement of 120 armor packages for Phase II in FY94. The alternative would have been a temporary, but costly, closure of the DU Armor facility.

Question. Deliveries of the Phase I upgrades were scheduled to occur between October, 1994 and September, 1996. What are your current estimates and why have they changed?

Answer. Phase I deliveries are still scheduled to begin in October, 1994 and to end in September, 1996. Estimated deliveries have not changed.

Question. Provide a monthly delivery schedule for Phase I for the record.

Answer. The monthly delivery schedule for Phase I is shown below:

1994:	
Oct	2
Nov	4
Dec	6
1995:	
Jan	8
Feb	8
Mar	10
Apr	9
May	10
Jun	10
Jul	9
Aug	10
Sep	9
Total	95

1995:	
Oct	10
Nov	9
Dec	8
1996:	
Jan	9
Feb	9
Mar	9
Apr	9
May	10
Jun	9
Jul	10
Aug	10
Sep	9
Total	111

M1 TANK PHASE II UPGRADE PROGRAM

Question. In Phase II of the tank upgrade program, 792 tanks will be produced. The fiscal year (FY) 1995 budget includes $52.973 million for advance procurement for this phase. For the record, provide a complete procurement profile for this phase.

Answer. The President's Budget for Phase II of the Abrams Upgrade Program is predicated on single year procurements and an industrial base of 240 tank equivalents per year. The following profile addresses Phase II only.

	Fiscal year—					Remainder	Total
	1995	1996	1997	1998	1999		
Quantity	....	120	120	120	120	312	998
Procurement:							
Regular	....	537.7	545.1	555.7	557.6	1,464.3	3,660.4
Advance	53.0	29.9	34.2	48.4	66.0	136.1	367.6
Training devices	....	13.3	12.2	14.1	....	....	39.6
Initial spares	....	16.6	21.8	21.9	24.1	46.3	130.7
Program total	....	....	....	....	....	....	4,198.3

The procurement line shown above also includes the following funding for Digitization of the Battlefield which was temporarily added to the Abrams upgrade until the Army created a separate line. This funding is not part of the upgrade program and will be moved into an appropriate line before the next budget submit.

	Fiscal year—					
	1995	1996	1997	1998	1999	Total
Army Digitization	....	64.0	68.0	64.0	62.0	258.0

Question. What procurement strategy for Phase II is assumed in your budget?

Answer. The procurement strategy assumed in the budget in single year sole source contracts for FY95–FY02. The strategy has assumed an industrial base of 240 tank equivalents per year.

Question. Has multiyear procurement been considered? What would be the advantages and disadvantages of such an approach?

Answer. Yes, it is under consideration. A true multiyear would offer the prime or other principal contractor's the opportunity to lock in savings by placing larger orders with vendor's. For parts that are not purchased from vendor's, the contractor's would be better able to forecast their business base over the next several years in order to minimize labor costs. However, we likely would not have been able to execute the FY86–FY90 M1A1 multiyear contract if not for the flexibility afforded by the options written into the contract and if not for the participation of the Marine Corps, the National Guard Bureau, and the Government of Egypt. Instability of funding is a very real problem in executing this type of contract. Configuration stability may also present obstacles because a comprehensive analysis of precisely what is needed for "Digitization of the Battlefield" has not yet been made. Such an analysis would require detailed information on numerous other elements of the force structure, not just tanks.

Question. What changes in the FY95 budget would be required if a multiyear procurement was to be used?

Answer. The advance funding would have to increase by $72 million.

Question. For the record, provide the complete procurement profile for a multiyear procurement for Phase II?

Answer. The following profile assumes a 240 per year business base, five year multiyear contracts for the prime contractor and the fire control components, beginning in FY96, followed by two year multiyear contracts for the balance of the Phase II objective of 792 tanks.

	Fiscal year—					Remainder	Total
	1995	1996	1997	1998	1999		
Quantity	....	120	120	120	120	312	998
Procurement:							
Regular	....	455.3	459.0	467.9	463.7	1384.6	3230.6
Advance	80.1	40.6	32.0	31.3	23.6	131.2	338.8
Training devices	....	13.3	12.2	14.1	....	....	39.6
Initial spares	....	16.6	21.8	21.9	24.1	46.3	130.7
Program total							3739.7

The uncertainty of future Foreign Military Sales cases has led to questions regarding the assumption of a 240 per year business base. Given only the upgrade program, the above multiyear assumptions would lead to the following program estimate.

	Fiscal year—					Remainder	Total
	1995	1996	1997	1998	1999		
Quantity	....	120	120	120	120	312	998
Procurement:							
Regular	....	514.0	521.5	538.9	549.2	1543.2	3666.7
Advance	125.1	104.5	81.9	57.7	32.5	146.9	548.6
Training devices	....	13.3	12.2	14.1	....	....	39.6
Initial spares	....	16.6	21.8	21.9	24.1	46.3	130.7
Program total							4385.7

ARMORED GUN SYSTEM

Question. In fiscal years (FYs) 1993 and 1994, Congress appropriated facilitization funding for the Armored Gun System (AGS), a "light tank" with a 105mm gun. Last year Congress denied funding requested for long lead material because of concerns about concurrency. The 1995 budget contains no procurement funding for the AGS. What is the status of this program?

Answer. The AGS remains a high priority Army program. It is urgently needed to replace the aging M551 Sheridan which is marginally supportable and is not survivable. Production representative vehicles are currently being manufactured and are scheduled to begin government testing in May 1994. A decision to enter Low Rate Initial Production (LRIP) is scheduled for August 1995.

Question. Is the Army considering revising or restructuring this program in order to address congressional concerns and provide a more reasonable procurement profile? If so, please discuss these considerations.

Answer. The AGS program has been restructured to reflect a more fiscally responsible program designed to minimize concurrency between production and development, and to perform adequate testing before entry into production. The revised strategy shortens LRIP from three years to one and reduces the procurement quantity from 69 to 26 vehicles. The Full Rate Production decision will be made in 2nd quarter (Qtr) FY97, after completion of Initial Operational Testing and the Congressionally mandated Live Fire test. Production will continue through FY01 with a total Army Acquisition Objective of 237 vehicles.

Question. What are the current testing and other program milestones for this program and what would they be for a revised program?

Answer. Technical Testing on the AGS will begin at Aberdeen Proving Grounds in May 1994 and will be completed 4th Qtr FY95. The Early User Testing will begin in January 1995 and continue through May 1995. The Army program review for LRIP has been rescheduled from December 1994 to August 1995 as a consequence of the OSD actions on the Army's FY95 Budget request. The current program will award the first of three LRIP contracts in 1st Qtr FY96. Production Qualification and Initial Operational Tests would be conducted in FY98 and the Milestone III decision for full production would be made in 1st Qtr FY99. The restructured program will use the production representative vehicles, refurbished to incorporate any changes mandated by previous testing to conduct the Initial Operational Testing and Live Fire Testing in FY96 (completed 1st Qtr FY97). This allows the Milestone III decision to be made in 2nd Qtr FY97, shortens the LRIP from three years to one and reduces the LRIP quantities from 69 to 26 vehicles.

Question. What FY95 funding would be required to carry out such a revised program and what would this funding do compared to the current budget?

Answer. The current Research, Development, Testing and Evaluation (RDT&E) budget request of $41.8 million provides for contractor test support, continued development of the logistics package, government program management and matrix support, training device development and government test support. An additional $20.5 million in FY95 would accelerate the transition between the Research and Development (R&D) activities and the initiation of LRIP. The funds would be used as follows:

$9.0 RDTE for refurbishment of prototype vehicles.

$3.0 RDTE for the system support package for Initial Operational Test and Evaluation and Live Fire testing.

$7.0 RDTE for Producibility engineering and weight reduction.

$1.5 Procurement for process prove-out and durability demonstrations of the XM–35 cannon produced at Watervliet Arsenal.

The funds for refurbishment and test support packages are required to support the revised program strategy. Elimination of FY95 funds by OSD delayed producibility engineering and process prove-out efforts. Restoring funds in FY95 ensures a smooth transition to Low Rate Production in FY96.

Question. Last year, you envisioned a total R&D program of $270.9 million and procurement of 300 vehicles at a cost of $1,233.5

million. What are the figures under your current program and a potential revised program?

Answer. The Army estimates the restructured program will require $291.4 million RDTE and $1,360 million Procurement. This is currently being addressed in the development of the FY96–01 Program Objective Memorandum. The estimate provided last year was based on the Army Cost Position (ACP) which was developed in May 1992, prior to contract award. Since that time, numerous events have impacted that early estimate. The Army's downsizing has reduced the procurement objective from 300 to 237. The medium armored vehicle industrial base has been significantly reduced from that projected in the ACP. And, selected design changes are required to the original vehicle configuration. These factors, combined with the program stretch, have contributed to program cost increases.

Question. For the record, provide a complete R&D and procurement profile, showing quantities and costs under your current program and a proposed revised program.

Answer. The funding required to execute the proposed restructured program is as follows:

	Prior	Fiscal year 1995	To complete	Total
RDTE	191.1	44.8	55.4	291.3
Procurement	15.9	0.0	1360.2	1376.1
Quantity	....	....	237	237

IMPROVED RECOVERY VEHICLE

Question. Last year, Congress appropriated $31.2 million—all unbudgeted—to initiate procurement of the Improved Recovery Vehicle (IRV), the M88A2. This vehicle will give the Army, for the first time, the ability to recover an M1A1 tank without having to use two vehicles or another tank. What is the status of this program?

Answer. In January 1994, the Army Milestone Decision Authority directed the IRV (the M88A1E1) to proceed into Low Rate Initial Production (LRIP). The Army continues to support the IRV program and plans to begin full production in 1996 upon successful completion of Production Qualification Tests and Independent Operational Test and Evaluation.

Question. When will the fiscal year (FY) 1994 funding be put on contract and over what period of time will the 1994 deliveries take place?

Answer. The LRIP contract award is scheduled for April 1994. Thirteen IRVs will be purchased with the FY94 funding of $31.2 million. Vehicle deliveries will begin August 1995 and end May 1996.

Question. What are the current testing, decision, contract or other milestones for this program?

Answer. The LRIP decision was made on January 25, 1994. LRIP contract awards are planned for April 1994 and January 1995. Production Qualification Testing is scheduled for August 1995 through December 1995. Independent Operational testing is scheduled for

October 1995 through December 1995. The Full Rate Production decision will be made in 1996.

Question. Previous testing of this vehicle had indicated some problems. What are the results of recent testing and what technical, operational, or other requirements have yet to be achieved?

Answer. The IRV conducted technical and operational testing from January through November 1993. Five prototypes completed over 11,000 miles of testing. During technical testing the vehicle reliability exceeded the requirement, doubling the field experience of the M88A1. The winch capability of 70 tons through the full length of the cable marked a significant enhancement over any other recovery capability in the free world and markedly reduced recovery time. The boom has safely removed and transported 25 ton Abrams tank turrets and routinely and quickly righted overturned 70 ton payloads. Likewise, operational testing indicated good reliability and demonstrated excellent recovery performance capabilities.

Question. What is the Army's total procurement program for this vehicle and what portion of the force structure will this support?

Answer. The Army's Acquisition Objective for this program is 346 Improved Recovery Vehicles (IRV). This will support the Conus Contingency Force and forward deployed units.

Question. How many vehicles are needed to equip the entire Army force structure?

Answer. There are 961 IRV's needed to equip the entire Army force structure. The IRV is the only vehicle that can recover the M1 Abrams series of tanks.

Question. For the record, provide the procurement profile, showing quantities and costs.

Answer. The FY95 President's Budget request is as follows:

[In millions of dollars]

Fiscal year	Procurement	Quantity
1994	31.2	13
1995	17.1	6
1996	23.4	9
1997	14.1	4
1998	45.5	21
1999	61.4	28

Question. What is the overall procurement strategy for the M88A2?

Answer. The Army plans to procure 81 IRVs (M88A1E1) in accordance with the FY95 President's Budget. The Army's Procurement Objective for this program is 346 IRVs.

Question. Fiscal year funds six vehicles at a cost of $17.1 million. The budget backup sheets show production of one vehicle per month and then a six month gap before FY96 deliveries begin. Does this make sense?

Answer. The production profile is based on resource availability, and is not efficient.

Question. What would be a more reasonable quantity and what would it cost?

Answer. Twenty vehicles for a total of $42.5 million.

Question. What other customers are anticipated for this vehicle and when might their orders materialize?

Answer. The United States Marine Corp will likely buy 20 IRVs per year starting in FY97 and ending in 2000.

BRADLEY FIGHTING VEHICLE

Question. In fiscal year (FY) 1993, Congress initiated and funded a Bradley Production Base Sustainment Program. The purpose was to sustain the industrial capability to produce Bradley Fighting Vehicles and derivatives while new and modernized versions of this vehicle were being developed. The program has supported the production of limited new vehicles and various modification programs for the current fleet. The FY95 budget funds 51 AO to A2 modifications (down from 135 last year) and no new vehicle production. Furthermore, no new Multiple Launch Rocket System chassis are budgeted in FY95. Is the Bradley Production Base Sustainment Program in trouble?

Answer. The Bradley Production base Sustainment Program is in reasonably good condition. Deliveries of new production Bradley A2 vehicles will continue through February 1995. The Bradley AO to A2 pilot production remanufacturing program (validation of the remanufacturing process) will be completed in April 1994. Initial AO to A2 production deliveries are scheduled to begin in February 1995. The AO to A2 production delivery schedule has been synchronized with the A2 new production vehicles to maintain a consistent monthly quantity at United Defense, Limited Partnership (UDLP). The variation in quantity procured in FY94 versus FY95 is a result of annualized support costs being absorbed by the Bradley sustainment line beginning in FY95.

Question. How does the fiscal year (FY) 1995 budget support the sustainment of the Bradley production base until the A3 configuration, the C3 vehicle, and other Bradley derivative vehicles enter production?

Answer. The delivery schedule for FY94 and FY95 funded AO–A2 remanufactured vehicles has been leveled to allow UDLP to produce approximately eight vehicles per month. This quantity will be sufficient to bridge the production gap and sustain the industrial base until the introduction of A3 production.

M109A6 PALADIN 155MM HOWITZER

Question. Last year FMC Corporation was awarded a multiyear contract for full rate production of the M109A6 Paladin 155 millimeter (mm) self-propelled howitzer modification program. The fiscal year (FY) 1995 budget includes $237.6 million to continue this program. This is the fourth largest procurement item in the Army's FY95 procurement budget. What is the status of this program?

Answer. The 155mm M109A6 Paladin self-propelled howitzer program has an acquisition objective totalling 824 systems. This acquisition is to be accomplished through a Limited Production (LP) phase and a Full Scale Production (FSP) phase.

The LP phase consisted of 164 M109A6 Paladins with turret manufacture and system integration under contract to BMY Combat Systems, a division of HARSCO, York, Pennsylvania (PA). Delivery of these vehicles is scheduled to be complete in November

1994. However, BMY is approximately two months ahead of delivery schedule with 132 systems delivered as of March 25, 1994.

The FSP phase consists of 660 vehicles, with options for 90 additional. Turret manufacture and system integration was awarded to FMC Corporation on April 9, 1993, through a competitive multiyear solicitation. This multiyear contract will provide 60 Paladins through the FY93 program, 170 in the FY94 program, and 215 systems in each of FY95 and FY96. Since the April 1993 award to FMC, BMY Combat Systems and FMC Corporation have entered into a limited partnership titled United Defense, Limited Partnership (UDLP). The Paladin Production Division (previously FMC) is scheduled to deliver the first FSP Paladin in December 1994.

Question. General Forster, we are told that you have characterized this program as a model of government-industry cooperation and process streamlining. Is this true? If so, can you tell us what features of this program cause you to so characterize it?

Answer. I characterize Paladin as a model program for the following reasons. In both the Paladin LP and FSP programs, an M109A2 or A3 howitzer chassis is overhauled and refurbished at Letterkenny Army Depot. The reconditioned and modified chassis is then forwarded to a contractor facility for integration with a newly fabricated, turret and fire control system. The contractor delivers the completed M109A6 Paladin to the Government. In the LP phase, BMY and Letterkenny Army Depot were separated by both distance and production process. In the FSP phase, FMC has collocated the new Paladin Production Division (PPD) at Letterkenny Army Depot to promote synergy, efficiency and day to day interaction between the two activities in the production process. This was the direct result of the multiyear solicitation which offered the opportunity to use Government facilities. Implementation of the PPD proposal has produced significant changes to the typical Government way of doing business with a contractor: defining and streamlining of Government/contractor interaction, efficient flow of information and materials, alternatives to conflicting Government regulations, and better property accountability.

Question. What is the overall procurement and manufacturing strategy for this program?

Answer. The FSP phase of the Paladin program will be accomplished as follows:

The old M109A2 or A3 howitzer chassis will be stripped and overhauled at Letterkenny Army Depot, and receive a number of chassis modifications, including a new and improved engine and transmission. The modified chassis will then be transferred to Letterkenny's PPD for system completion.

In their multiyear proposal, FMC was to manufacture the Paladin turret in San Jose, California, and ship it to Letterkenny for final integration. However, under the UDLP, the turret will be manufactured at the Combat Systems Division (CSD, formerly BMY) plant in York, PA.

The new M109A6 turret will be moved from the York, PA plant approximately 60 miles to PPD's facility at Letterkenny. There, the M109A6 turret, including a new automatic fire control system, diagnostic/prognostic capability, modified hydraulic system, and numerous other major modifications, will be integrated with the

M109A6 chassis. The completed system will be painted, tested, and delivered to the Government at Letterkenny.

LONGBOW APACHE (AH–64) HELICOPTER MODIFICATIONS

Question. The budget includes $117,558,000 for advance procurement for AH–64 Longbow Apache helicopter modifications. What is the status of the Apache Longbow program?

Answer. The Longbow has completed 40 months of its Engineering and Manufacturing Development Phase which began in December 1990. In accordance with the Longbow Acquisition Memorandum, dated 7 December 1990, a Long Lead In-Process Review will be conducted by the Department of Defense Conventional Systems Committee (CSC) for the purpose of reviewing program progress and readiness to award contracts for long lead items. Initial Operational Test and Evaluation (IOTE) will be conducted from January–March 1995. Milestone III is scheduled for November 1995.

Question. What are the milestones and testing schedules for the 6 Longbow prototypes?

Answer. Milestones:

September 1994—Pre-Production Qualification Testing (PPQT);
November 1994—Force Development Test and Experimentation (FDTE);
March 1995—IOTE;
June 1995—Live Fire Test and Evaluation (LFTE).

Question. What are the results of testing to date? Have any technical or performance requirements failed to be met to date?

Answer. Flight testing and radar performance remains on schedule, with all technical and performance requirements being met.

Question. What development and testing activities remain to be conducted in fiscal years (FY) 1994, 1995, and 1996, and what is the current Research and Development (R&D) funding profile?

Answer. See previous answers for FY94 and some FY95 testing. Post IOTE testing includes:

Live Fire Test and Evaluation in April 1995.

Embedded Global Positioning System/Inertial Navigation Unit Testing in April 1995.

ECS Testing from December 1994 through October 1995.

32–BIT Weapons Processor & Systems Process Qualification Testing in the Long-Lead Contract.

Qualification testing of Production Component Supplier's Replacement Hardware by Contractors in the Long-Lead Contract and early Lot 1.

First Article Testing starting in January 1997.

The R&D Funding Profile (Escalated Dollars in Millions) is shown below. For more details refer to the Longbow Apache Selected Acquisition Report which was sent to Congress, dated December 31, 1993.

	1993	1994	1995	To complete	Total
Longbow Apache	100.8	88.1	105.5	9.3	303.7

	1993	1994	1995	To complete	Total
Fire Control Radar	118.9	82.5	26.2	0	227.6
Radio Frequency (RF)	82.2	107.2	35.5	0	224.9

Question. Why is advance procurement required for this program and what specifically will be procured with funds included in the budget.

Answer. FY95 advance procurement funds the initial production tooling and long lead items which protect initial production deliveries in the Lot 1/FY96 production contract. The Lot 1 deliveries are designed to support the Army required First Unit Equipped date of October 1997, but perhaps more importantly are required to maintain an effective and cost efficient transition from the AH–64A modification program.

The demand to field the Longbow equipped Apache allows the Army to fight on the digitized battlefield of the future in adverse weather during day and night conditions. This aircraft is essential to defeat the validated threat of the near future.

In addition to tooling and long lead time, the advance procurement request provides funding for special test equipment, long lead engines required to support the modification line, aircraft system test and evaluation, and contractor program management as follows:

[In millions of dollars]

Aircraft:	
Engines (20)	12.9
Tooling	35.5
System test and evaluation	8.2
Recurring hardward	10.7
Systems program management (SPM)	12.3
Total aircraft	79.6
FCR:	
Tooling	25.7
Recurring Hardware	4.8
SPM	7.5
Total FCR	38.0
Total FY95 Advance Procurement	117.6

Question. What are the procurement/contract milestones for the fiscal year 1995 funds?

Answer. The FY95 Lot 1, Advance Procurement for the Apache Longbow airframe and Joint Venture Fire Control Radar long lead time materials and components will be awarded as early as possible in November 1994 following the required Department of the Army contract review and Congressional notification requirements which will be conducted from October—November 1994.

The long lead items will be termination liability (TL) funded pursuant to Department of Defense (DOD) Directive 7200.4 entitled Full Funding of DOD Procurement Programs. These TL items will not be definitized during the FY95 funded delivery period. At the time of award of Lot 1 production, the long lead time items will be transferred to the Lot 1 production effort as a "whole cost" transfer. The long lead parts and materials will be definitized as a part of the usuable end items under the definitized Lot 1 production contracts.

Question. For the record, provide the total procurement funding profile for Apache Longbow, showing quantities and costs by year.

Answer. The Procurement funding profile (Escalated dollars in Millions) and total quantities for the Longbow Apache are listed below. For more details refer to the Longbow Apache Selected Acquisition Report, dated December 31, 1993.

	1993	1994	1995	To complete	Total
Advanced procurement	0	0	117.6	314.7	432.3
Aircraft	0	0	0	5,531.6	5,531.6
FCR	0	0	0	625.1	625.1
Initial spares	0	0	0	170.1	170.1
RF missile quantity	0	0	42.0	3,069.3	3,111.3
Quantity:					
Aircraft	....	....	....	....	758
FCR	....	....	....	....	227
RF missile	....	....	....	....	13,311

Question. What is the procurement strategy for Apache Longbow and what types of contract(s) will be used?

Answer. The Longbow Apache program strategy is to proceed from initial concept definition through production and fielding following a disciplined heel-to-toe approach. This approach involves the judicious use of concurrency to initiate a new phase when emerging results of the current efforts mitigate the risk of doing so, and when substantial cost and schedule benefits can accrue.

The Acquisition Strategy for the AH–64D Modernization assumes that the airframe effort will be completed by McDonnell Douglas Helicopter Systems (MDHS) based on their substantial investment in the AH–64 design, facilities, special tooling, and special test equipment. This test equipment is either not serviceable from the MDHS facility or could be duplicated for use by alternate sources only at costs which would be prohibitively expensive and delay Initial Operating Capability for the AH–64D. The Lot 1 production contract will most probably be a Fixed Price Incentive (FPI) type with incentives on cost only. If, in the transition from Engineering Manufacturing and Development (EMD) to production, the government sees some risk areas such as weight goals, performance, subsystem or component reliability, we may introduce these areas into the Incentive Price Formula for Lot 1 production.

In regard to the FCR it is assumed that the government will transition from EMD to Lot 1 production with Fixed Price Type Contracts. This is considered to be a low technical/schedule risk area of the program. It is assumed that the Procuring Contracting Officer will affect Lot 1 FCR production with either a Firm Fixed Price contract or FPI with an incentive on cost only.

Question. Last year, Congress funded the procurement of 10 additional Apache aircraft to replace, in part, those taken from the Army inventory and given to Israel, and also to help avoid a production line break. Is a break still threatened? If so, please explain, including costs and consequences.

Answer. There is still a potential 12 month production delivery gap at McDonnell Douglas Helicopter System' (MDHS') Mesa, AZ facility. MDHS will deliver the last AH–64A in March 1996 and the first AH–64D in late March 1997. The Army and Congress reduced the original 19 month gap by 7 months by extending the current production contracts by 4 months and with the fiscal year 1994 Congressional authorization and appropriation for 10 additional AH–64As. The Army is continuing efforts to bridge the production delivery gap through Foreign Military Sales (FMS). Current FMS cases with the United Arab Emarites (UAE) and Kuwait have the potential to close the gap by 11 months. The UAE submitted a Letter of Request (LOR) for 10 aircraft; a 3 month gap closure. Kuwait has a requirement for 24 aircraft and is expected to submit a LOR sometime this summer; an 8 month gap closure. Given that the pending FMS cases are consummated, a one month gap in the production line still exists. The most recent analysis estimated that a 12 month production line gap would create an economic impact of approximately $300 million in shutdown, storage, startup, and loss of learning costs which would be transferred to the Army in the way of higher unit costs for the Longbow Apache.

UH–1 HUEY SERVICE LIFE EXTENSION PROGRAM (SLEP)

Question. Last year, Congress appropriated $15 million to initiate a competitive Service Life Extension Program (SLEP) for the UH–1 Huey helicopter. The conferees directed that the Secretary of the Army and the Chief of the Army National Guard jointly identify the specific components of this program, giving highest priority to "replacement of all major dynamic components to maximize reduced time between overhaul, reduced operating cost, and improved operation performance". According to press reports, the Army is using much of this $15 million on a study to decide whether a Huey SLEP program is necessary. What is the Army doing today to implement the direction of Congress?

Answer. The Army is currently conducting the required SLEP study. Contrary to press reports the Army is not using any of the $15 million appropriated for the SLEP program. The Office of the Secretary of Defense has withheld the money until it can be determined if a SLEP is required and, if so, what type.

Question. What studies are being conducted on this subject, who is conducting them, how much are they costing, who is paying for them, and when will they be done?

Answer. The Army is conducting a study with the Training and Doctrine Command (TRADOC), the Army Aviation and Troop Command (ATCOM) and the National Guard working together to determine if a SLEP is required and, if so, what type of SLEP will be done. The study of being done within the Army, therefore cost data will be determined at the completion of the study after compiling the man-hours spent. TRADOC is the lead agency for the Army and any costs incurred as a result of the study will be funded by TRADOC. The study is projected to be complete by May 1, 1994.

Question. Last year, the Army increased its UH–60 Black Hawk procurement objective to 2248. The budget now proposes to terminate Black Hawk procurement in 1996 after buying only 1450 aircraft. With no additional Black Hawk procurement and no Huey SLEP, does not the Army utility helicopter fleet face a major problem in the near-term as well as the far-term?

Answer. The procurement objective was decreased last year from 2252 to 2045. Termination of Black Hawk procurement was an affordability and prioritization decision. While continuing to modernize with Black Hawks would be preferred, funding constraints dictate that we continue for now with a composite utility fleet of Black Hawks and Hueys. From a sustainment perspective, we do not see a problem with the Huey as we will augment our parts inventory from retiring aircraft. From a capability standpoint, we are in the process of studying the requirement for a Huey SLEP and intend to report to the Congressional Defense Committees by May 15, 1994.

Question. To replace the current Black Hawk shortfall with Black Hawks would cost about $4.5 billion while filling that shortfall with a Huey SLEP program would cost only about $1 billion. In today's severe budget climate should not the Huey SLEP program be given serious consideration?

Answer. The utility helicopter requirement for the Army is the UH–60 Black Hawk. Even with an extensive Service Life Extension Program (SLEP) the UH–1 would still be a UH–1 and not a UH–60. The UH–1 would still not be able to lift an infantry squad into battle, the UH–1 would still be slower than a Black Hawk and it will never be able to lift as much as a Black Hawk. Because of funding shortfalls, the Army had to make the tough decision to terminate the Black Hawk procurement at the end of Fiscal Year 96. This decision does not mean, however, that the Army, in any way, wants the UH–1 as a replacement. The SLEP would be limited to those aircraft remaining in the fleet following termination of any further UH–60 procurement. The $1 billion spent on a SLEP could buy as many as 150 Black Hawks which would complete modernization of the our Medical Evacuation (MEDEVAC) fleet for Force Package 1, 2 and approximately one-third of Force Package 3.

Question. Without a Huey SLEP program, what does the Army intend to do for the reserve components to continue to provide them with light utility capability as their thousands of Hueys wear out and become increasingly expensive to operate?

Answer. Absent a SLEP for the UH–1, the problem of supporting the future fleet is not projected to be difficult. The Army's proposed plan for UH–1 reductions, worked in concert with the National Guard, will reduce the total UH–1 Army requirement to less than a thousand aircraft by the year 2000. This means that over a thousand airframes will be retired. A parts reclamation program will ensure that a vast number of repair parts are readily available. Additionally, the army will continue to provide safety modifications to the Huey when deemed necessary by the Army Aviation and Troop Command and the Army Safety Center.

Question. Press reports have quoted Army officials as stating that the Light Helicopter Turbine Engine Company (LHTEC) T800 engine is the engine of choice for a Huey SLEP program. General, has the Army already made up its mind on this program?

Answer. Absolutely not. Should the Army undertake a Huey SLEP, it would be a competitive procurement conducted in full and open competition.

Question. In your opinion, can the T800 engine satisfy the Congressional direction that the Huey SLEP have "improved operation performance"?

Answer. Yes, our preliminary analysis shows potential improvements in both range and payload.

Question. What are the other candidates for this program?

Answer. Some of the potential candidates for a replacement engine are the Lycoming T–53–L–703, which is currently in the AH–1; the General Electric T–700, currently in the UH–60A; and the T–701C, currently in the UH–60L. I want to emphasize that this is not intended, in any way, to limit competition. There may be other candidates which emerge if the Army issues a solicitation.

HEAVY TACTICAL TRUCKS

Question. The army projects no additional funding for procurement of the Palletized Loading System (PLS) and Heavy Equipment Transporter (HET) trucks. Have all the Army's requirements for these vehicles been satisfied? If not, what are the deficiencies?

Answer. No, all the requirements have not been satisfied. The PLS short fall is 299 trucks (2,977 required), 165 trailers (1,476 required), and 36,974 flatracks (50,848 required). The HET shortfall is 938 (2,261 required). The monetary shortfall for PLS is $77.6M for the trucks, $6.8M for the trailers, and $662M for the flatracks. The monetary shortfall for the HET is $309M.

Question. Does the Army have any additional requirements for other heavy tactical vehicles? If so, please explain.

Answer. Yes. Current Army requirement is for 14,370 Heavy Expanded Mobility Tactical Truck (HEMTT). Army has been funded for the procurement of 12,634 leaving a shortfall of 1,739. The monetary shortfall is $347.8 million. The M915, M916, and M920 trucks will begin to exceed their economic useful life by the year 2000 and will require replacement/upgrade programs in the future.

Question. What plan does the Army have to satisfy these needs?

Answer. Limited funding precludes inclusion of programs for these trucks in the present Program Objective Memorandum.

Question. The Training and Doctrine Command recently approved a study recommending that requirements for the Palletized Loading System (PLS) be more than doubled to expand its use beyond ammunition transportation. Please comment on this study.

Answer. The PLS study analyzed various additional potential applications for PLS. The study identified some viable uses for PLS such as water and fuel transport and distribution, plus potential applications for engineer bridging, aviation maintenance, and Deployable Medical Systems (DEPMEDS) platform. Projected number of additional PLS trucks for these applications is 3,875. The study is currently under review by the Army for doctrinal and cost implications. This review should be completed by July 94.

Question. Heavy tactical trucks for the Army and the Marine Corps are currently supplied by one manufacturer. How do you assess the near and long term business base of this manufacturer?

Answer. The current business base for this contractor, Oshkosh Truck Corporation (OTC), is 65% defense and 35% commercial. This manufacturer is prepared to survive solely in the commercial market in which it was originally based. OTC states that they must be funded to produce two PLS systems or equivalent trucks, e.g., Heavy Equipment Transporter System (HETS) or Heavy Expanded Mobility Tactical Truck (HEMTT), per day to sustain a military vehicle production capability. OTC has indicated that without this military production it will lose the unique capabilities it possesses to develop and support tactical vehicle production for the military services. The manufacturer could no longer afford to retain its support skills in the areas of integrated logistics support, design engineering and test support. This capability was acquired during over 30 years of conducting business with the Department of Defense. This would complicate any reestablishment of a defense capability at a later date. The primary focus of this manufacturer is to keep facilities operating at peak efficiency, including consideration of downsizing and strategic alliances. On March 17, 1994, OTC announced a 25% downsizing of its workforce by the end of fiscal year 94, due to the forecasted reduction in the company's defense business. This equates to a 400-person decrease and is in addition to a reduction of 300 workers over the past two years. OTC would likely only consider a subsequent reentry into the defense market if such action maximized the firm's profitability at that decision point.

Question. Does this industrial base need to be retained? If not, how will future requirements be satisfied?

Answer. The retention of an industrial base for the assembly of specialized heavy tactical trucks is critical to ensure the ready availability and affordability of such trucks in the future. The remaining industrial base will only be capable of producing commercial highway trucks which have been proven incapable of supporting Army tactical requirements and operations. While future heavy tactical truck requirements can be acquired through a re-establishment of this base, these future programs will carry both a cost and delay penalty. It is estimated that it would take OTC a minimum of 2½ years to re-establish the production capability from a cold base.

Question. What alternatives, if any, is the Army considering to retain the industrial base after all trucks currently on order are delivered?

Answer. Several alternative contracting strategies are under consideration. One strategy with promise is the use of a requirements contract, which will allow the current heavy truck manufacturer to retain its defense capability at a decreased production rate. Foreign Military Sales cases would also be included in this rate. This approach recognizes that such lower production rates will be extremely difficult to effectively compete. We are looking at future vehicle performance requirements for all tactical trucks in order to maximize commerciality wherever possible.

HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV)

Question. The budget includes $108.1 million for procurement of the High Mobility Multi-purpose Wheeled Vehicle. Previously, this vehicle has been procured under a series of multiyear contracts, ending with the fiscal year 1994 procurement. The fiscal year (FY) 1995 vehicles, the last ones currently budgeted for procurement, are proposed to be procured under a “requirements contract”. How does such a contract work?

Answer. The requirements contract will be a one-year basic contract with an option for four additional years. The guaranteed minimum quantity on this contract will be the Army's FY95 budget submission. The contract may be terminated when funding ceases.

Question. How will the price be determined under such a contract?

Answer. The prices will be negotiated based upon verified, audited costs or, if it can be adequately supported, a comparison with commercial prices.

Question. How do you expect to be able to procure vehicles in fiscal year 1995 at quantities that are a fraction of annual procurements of the past?

Answer. Discussions with AM General have indicated that the amount budgeted in FY95 is acceptable to them based upon their anticipated commercial and direct sales business.

Question. Does the Army anticipate a need to procure additional HMMWV's in the future? In what quantities?

Answer. The Army does see a need to procure additional HMMWV's to support existing requirements and to support the fielding of new systems. However, the Army's limited resources will not support a HMMWV buy until Fiscal Year (FY) 02, but the Army plans to award a multi-year requirements contract in FY 95. This will enable the Army to purchase HMMWV's if funds become available. The HMMWV shortfall will be approximately 10,000 vehicles. The FY 02–07 HMMWV rebuy will procure 24,133 vehicles to replace overage, high mileage HMMWV's in priority units.

Question. What actions are you taking or contemplating to preserve the production base for future procurement? How do you expect to be able to procure very low quantities at an affordable price?

Answer. The Army is currently staffing a Justification and Approval for a sole source requirements contract with AM General. The Army views the requirements contract as the most viable means of preserving the production base. The contractual instrument will allow the government and contractor to take advantage of Foreign Military Sales cases, Congressional plus ups and unforeseen, additional Army requirements. The requirements contract will carry production into FY96. Negotiated, affordable future year pricing will be part of the document.

Question. What is the Army's long range plan for the HMMWV and Commercial Utility Cargo Vehicle (CUCV) fleets as these vehicles start to reach the end of their useful life?

Answer. The Army plans to buy replacement HMMWV's beginning in Fiscal Year (FY) 02. Due to the few remaining CUCV requirements and relatively low priority in view of the Army's limited budget, the CUCV replacement is viewed as unaffordable.

Question. Last year, Congress provided $14,000,000 for putting heavy armor on the HMMWV and directed the Army to report on its plans for carrying out this program by March 1. Where is the report?

Answer. The report was approved by the Acting Assistant Secretary of the Army (Research, Development and Acquisition) on March 11 and sent to the Congress on the same day.

Question. Summarize the Army's program for heavy armor HMMWV, showing the program milestones, funding profiles, procurement strategy, fielding plan, etc.

Answer. The planned program milestones are as follows:

Apr 94.—Modify contract for 100 additional Uparmor HMMWV.
Jun 94.—Last of the urgent 55 HMMWVs delivered in Jun.
Aug 94.—Remaining Uparmors called up.
Nov 94.—FY95 Uparmors called up.
Dec 94.—100 additional Uparmors complete.
Feb 95.—Start delivery of Uparmors called up in August 94.

The funding profile is as follows ($in thousands): FY92 $12,500, FY93 $15,410, FY94 $34,432, FY95 $12,656. The procurement strategy is to modify the current or existing HMMWV contract with AM General to armor M1097 Heavy HMMWVs except for about 100 Uparmors due in December 1994. The Uparmor fielding plan is as follows:

4—Residual US Forces Somalia (May 94).
50—Military Police Peacekeeper Units.
146—1st Armored Division.
340—2nd Armored Cavalry Regiment (Light).
5—Test and Training Float Vehicles.

FAMILY OF MEDIUM TACTICAL VEHICLES (FMTV)

Question. The budget includes $382.7 million for the procurement of the Family of Medium Tactical Vehicles. This is the second largest procurement item in the fiscal year 1995 budget. Fiscal year 1995 is the fourth year of a five year multiyear contract, yet the program has suffered serious delays because of technical problems in initial production vehicles. What is the status of this program and what are the current dates for completion of Initial Production Test, Initial Operational Test & Evaluation, and the Milestone III full rate production decision?

Answer. Initial Production testing (IPT) is ongoing and is expected to be completed in June 1994. Initial Operational Test & Evaluation (IOT&E) is forecast to be completed by the end of September 1994 and the Milestone III full rate production decision is planned for November 1994.

Question. What are the underlying problems that have caused this program to be so troubled?

Answer. The FMTV contractor (Stewart & Stevenson Services) experienced production and quality problems with a few suppliers which resulted in slow deliveries and acceptance of some parts to sustain production build. The contractor has placed greater emphasis on supplier control in order to assure that quality requirements are maintained. The contractor is continuing to improve its procedures and is proceeding with the second year build in an orderly manner.

Question. Last August, a new delivery schedule (Mod 13) was negotiated to account for production and testing delays. For the record, show the original and Mod 13 delivery schedule.

Answer. Except for test vehicles, the contract vehicle deliveries for program years 1 and 2 reflect total production quantities for that year of production. Specific month by month production quantities are not specified. The original delivery schedule and the Mod 13 delivery schedule is as follows:

Date	Original contract	Mod 13
Oct 91	[1]	
Sep 92	15	15
Oct 92	85	100
Nov 92		
Dec 92	177	
Jan 93		
Feb 93		
Mar 93		
Apr 93		
May 93		
Jun 93	1197	
Jul 93		
Aug 93		27
Sep 93		211
Oct 93		39
Nov 93		
Dec 93		
Jan 94	125	
Feb 94	137	1197
Mar 94	143	
Apr 94	157	
May 94	166	200
Jun 94	176	200
Jul 94	186	200
Aug 94	219	200
Sep 94	239	200
Oct 94	259	200
Nov 94	279	200
Dec 94	298	200
Jan 95	290	200
Feb 95	288	200
Mar 95	290	200
Apr 95	288	184
May 95	288	288
Jun 95	288	288
Jul 95	288	288
Aug 95	288	288
Sep 95	288	288
Oct 95	288	288
Nov 95	288	288
Dec 95	289	289
Jan 96	294	289
Feb 96	293	289
Mar 96	293	289
Apr 96	293	289
May 96	293	440
Jun 96	293	437
Jul 96	293	438
Aug 96	294	439
Sep 96	294	441
Oct 96	294	443
Nov 96	295	443
Dec 96	295	443
	10,843	10,843

[1] Contract award.

Question. How has the contractor performed to date under the Mod 13 schedule? How likely is he to be able to continue deliveries on this schedule?

Answer. The contractor is still experiencing production and quality problems with a few suppliers which have resulted in slow deliveries and acceptance of some parts to sustain production build. The production facility has the capacity to recover to the schedule by the end of the 3rd contract year once these problems have been resolved.

Question. What are the results to date of Initial Production Test? How likely is it that this test will be successfully completed this summer as scheduled?

Answer. The reliability portion of the test was slowed to allow fixes required for the continuation of the Initial Operational Test & Evaluation (IOT&E) test to be applied and demonstrated during Initial Production Testing (IPT). With these fixes in place the vehicles are expected to meet the requirements. The test fixes are being installed now and the test will return to normal speed in April which will allow ample time for completion in June.

Question. How likely is it that the Army will be able to have a successful Army Systems Acquisition Review Council (ASARC) in November as currently planned? Since ASARC approval is necessary to begin the full rate production funded in fiscal year 1995, how much can be cut from the budget for each month of delay in the ASARC?

Answer. The completion of IOT&E in September 1994 is key to meeting the November 1994 ASARC. The program is on tract to start IOT&E in June resulting in completion in September. Under terms of the contract, incremental call ups of the 4th program year are prohibited. Failure to provide full funding for the full amount of the program year would result in cancellation of the contract and the contractor would be entitled to cancellation charges as set forth in provision H.33 of the contract.

Question. What are the Army's long term plans for modernizing its medium tactical truck fleet? To what extent are these plans funded in the current five year budget?

Answer. The Army's long range plan for modernizing the medium fleet is a thirty year procurement program (Fiscal Years 91–21) to replace the current fleet on a one-for-one basis. The initial multiyear (5) contract was awarded October 11, 1991 to Stewart & Stevenson of Houston, Texas for 10,843 vehicles. Contract cost was $1.2 Billion. Current five year budget programmed funds are $382.7Million FY95; $382.8Million FY96; $309.5Million FY97; $275.1Million FY98; $397.6Million FY99.

Question. What is the planned procurement strategy for the Family of Medium Tactical Vehicles after completion of the current multiyear contract?

Answer. After obligation of the FY96 funding under the fifth and final year call-up of the current multi-year contract, the strategy is to initiate a competitive solicitation for a follow-on five-year multiyear production contract.

Question. How many FMTV's in total does the Army plan to buy and over what time period?

Answer. The Army plans to buy 88,000 vehicles over a thirty year period (FY91–FY21).

Question. What plans do other services have to procure the FMTV? What do you know about fiscal years and quantities?

Answer. The Air Force has provided $9M for 97 FMTVs which were put on contract in September 1993. The Navy has provided FY92 and FY93 funded requirements for 82 FMTVs and has indicated that FY94 funding will soon be provided for an additional 74 vehicles.

Question. What role did the Marine Corps play in determining the technical and performance requirements for the FMTV?

Answer. The Joint Services Operational Requirement was staffed with the Marine Corps and they were an active participant in monitoring the prototype competitive runoff. Specific and unique Marine Corps requirements such as deep water fording capability and the integration of International Standards Organization container fittings into the cargo bed have been incorporated into the FMTV performance specifications.

2.5 TON TRUCK SERVICE LIFE EXTENSION PROGRAM

Question. Last September, the Army awarded a multiyear contract to AM General Corporation for a Service Life Extension Program for the aging fleet of 2.5 ton trucks. What is the status of this program?

Answer. The program is on schedule with approximately 350 2½ ton trucks located at AM General's South Bend, Indiana plant awaiting remanufacture. Currently, 23 trucks have been disassembled and are awaiting initial refurbishment.

Question. Why has this program been "defunded" in the fiscal year (FY) 1995 budget? Is it because these trucks are mostly for the Reserve Components and they are lower priority?

Answer. The Extended Service Plan (ESP) was not prioritized high enough to receive funding. The priority of the receiving units did not bear on the funding decision.

Question. What orders do you expect from other services and how many of these will come in fiscal year 1995?

Answer. It is difficult to predict funding from other services as the Army does not have visibility of the other service's programming and budgeting process. The Air Force Logistics Center, Warner Robbins AFB, signed a Memorandum of Understanding (MOU) with Program Executive Office, Tactical Wheeled Vehicles on February 3, 1994 for up to 1,127 trucks. Based on funding availability, the Air Force plans to order 283 trucks in FY95.

Question. What is the minimum procurement in fiscal year 1995 to avoid having to terminate or renegotiate the contract?

Answer. The third program year, $23.5M must be called up prior to January 30, 1995. Under current plans, this call up will be executed in August 1994 using a combination of FY 94 OPA 1 and Army Reserve funding.

Question. What are the milestones for testing of these vehicles and the monthly delivery schedule through the fiscal year 1994 funded delivery period?

Answer. Testing is scheduled to start in September 1994 and finish in May 1995. Monthly delivery period information is as follows:

Month/year	*Production/quantity*
Aug 94	11
Sep 94	10
Oct 94	10

Month / year	*Production / quantity*
Nov 94	10
Dec 94	15
Jan 95	31
Feb 95	40
Mar 95	40
Apr 95	66
May 95	70
Jun 95	73
Jul 95	74

CHEMICAL/BIOLOGICAL DEFENSE EQUIPMENT

Question. Over $100 million is requested for a variety of chemical and biological defense equipment, a substantial increase from the current year. What are the major shortcomings of current inventory of chemical and biological defensive equipment?—I.E., is it a quantity shortfall or a quality of the equipment problem?

Answer. Current Chemical and Biological (CB) defense equipment has both quantitative and qualitative shortcomings. Modernization efforts are focused on early deploying and overseas units. Lower priority units will benefit from the cascading effect of modernization of high priority units which will correct many of our current quantitative shortcomings.

In the detection/warning and identification area, the Army is short unit level chemical agent alarms, chemical agent monitors and Nuclear Biological and Chemical (NBC) reconnaissance systems. Current funding allows fielding the Chemical Agent Monitor, The Automatic Chemical Agent Detector Alarm and the FOX reconnaissance vehicle to Force Package (FP) I and II units only. Qualitative shortcomings include the lack of any biological detection capability and no standoff chemical/biological agent detection capability. A single agent chemical agent detector/alarm, and a maintenance-intensive chemical agent monitor comprise our current chemical agent detection capability.

In the area of individual protection, the Army currently has insufficient quantities of the new soldier protective masks. However, the Army will have procured sufficient quantities by Fiscal Year (FY) 96 to correct this quantitative shortcoming. In the area of collective protection, current funding only allows fielding the M20A1 simplified collective protection equipment to FP I and II units only. Qualitative shortcomings include a limited biological vaccine capability, protective suits that are too bulky and cause too much heat load on the soldier, aviation masks that are not completely compatible with sighting systems and collective protection equipment which is too heavy, manpower-intensive and difficult to maintain.

Decontamination remains a logistically burdensome and manpower intensive activity. Additionally, decontamination training experience indicates that a higher water pressure level would significantly increase decontamination operations efficiency. The modular decontamination system, scheduled for procurement in FY97, would increase wash pressure from 100 pounds per square inch (psi) to 3000 psi and ease the manpower and time requirements.

Question. A Joint Program Office (JPO) for Biological Defense has been established and the Army is the lead agent. One of the functions of the Joint Program is to determine “the best course of action to establish a vaccine production facility." What is the current shortfall for vaccine for biological warfare?

Answer. At this time the shortfall is unknown. The Office of the Secretary of Defense vaccine policy (Department of Defense Directive 6205.3; November 26, 1993; subject: Department of Defense Immunization Program for Biological Warfare Defense) has directed the Commanders-in-Chief to determine their requirements. Once the requirements are known, shortfalls can be determined.

Question. What is the timeframe of establishing such a facility?

Answer. After a decision is made to construct a Vaccine Production Facility and funding is established, the minimum time for developing the design, constructing such a facility and validating its products for human use would be approximately five years.

Question. Do you anticipate that the vaccine production facility would be owned and run by the government?

Answer. The vaccine facility could either be owned by the government and operated by contractors or contractor owned and contractor operated. A decision has not been made by the Department of Defense which format of owner/operator should be pursued to meet the United States military requirements.

Question. $19 million is a requested for the Remote Sensing Chemical Agent Alarm which is a sensor to detect nerve and blister vapors from up to five kilometers away. The funding profile for the program is very volatile:

Fiscal year:	
1993	6.4
1994	0
1995	19.0
1996	4.2

What accounts for the volatility?

Answer. The Remote Sensing Chemical Agent Alarm (RSCAAL) program was structured to procure low-rate production units in fiscal year (FY) 92 with first article and production qualification testing being conducted in FY93 and FY94 using FY93 funding. FY94 is a planned skip year during which the test results will be evaluated and the Milestone III type classification standard decision will be completed. The full rate production contract option will be awarded in FY95. FY96 funding will be used to refurbish the test units and to support fielding of the production units.

Question. What quantity do you intend to procure with the FY95 funds?

Answer. The requested funding procures 156 systems.

[CLERK'S NOTE.—End of questions submitted for the record.]

TUESDAY, MARCH 15, 1994.

PROCUREMENT OF AMMUNITION, ARMY

WITNESS

BRIG. GEN. WILLIAM R. HOLMES, USA, DEPUTY FOR AMMUNITION, OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION

INTRODUCTION

Mr. MURTHA. The Committee will come to order.

This morning, the Committee considers the $844.6 million budget for Procurement of Ammunition, Army. While slightly higher than the fiscal year 1994 funding level of $735.4 million, it is still far below the levels provided in previous years.

The principal witness is Brigadier General William R. Holmes, Deputy for Ammunition, Department of the Army. General Holmes, we welcome you back before the Committee. We will insert your entire opening statement in the record. Please summarize it and then we will proceed to questions.

SUMMARY STATEMENT OF GENERAL HOLMES

General HOLMES. Mr. Chairman and distinguished members of the committee, it is a distinct pleasure to appear before you today to testify on the Army's fiscal year 1995 ammunition procurement budget. Please allow me at the outset to thank members of this Committee for the strong support you have given to the Army's ammunition procurement program in the past.

The fiscal year 1995 budget I will discuss with you today provides $626.2 million for the procurement of ammunition end items and $218.4 million for the government and commercial ammunition production base. It has been carefully developed to ensure that our soldiers have the optimum mix of ammunition for training and to fight and win quickly the next regional crisis, whenever and wherever it may occur. The budget also reflects some trade-offs between prudent risks and affordability in meeting our national military strategic objectives.

This ammunition budget represents a balanced program of procurement for both training and reserve, demilitarization, and production base funding designed to retain our ability to arm and sustain the total force; a force that must be capable of generating the level of combat power essential to achieve dominance and decisive victory in support of the national military strategy.

Thank you for your time and continued support and I look forward to working with you in the challenging days ahead.

Thank you.

[The statement of General Holmes follows:]

STATEMENT BY
BRIGADIER GENERAL WILLIAM R. HOLMES
DEPUTY FOR AMMUNITION
DEPARTMENT OF THE ARMY
ON THE FISCAL YEAR 1995 BUDGET PROPOSALS
AND THE POSTURE OF THE UNITED STATES ARMY
HOUSE APPROPRIATIONS COMMITTEE

Mr. Chairman and Distinguished Members of the Committee.

It is a distinct pleasure to appear before you today to testify on the Army's Fiscal Year 1995 Ammunition Procurement Budget. Please allow me at the outset to thank Members of this Committee for the strong support you have given to the Army's Ammunition Procurement Program in the past.

The FY95 ammunition procurement budget request reflects the new Defense Planning Guidance (DPG) which envisions two nearly simultaneous major regional conflicts of limited duration. The DPG also allows an interval of time to selectively replenish expended war reserve stocks after the termination of hostilities. The number of ammunition end items and related components designated for replenishment has been reduced from 330 to 175, a reduction of 46 percent. This is a significant departure from prior guidance based on a global war of much longer duration, with much greater and more time constrained replenishment requirements.

Since the submission of this budget request, we have completed a revision to our ammunition production base planning study and have completed a comprehensive functional area assessment for conventional ammunition.

The FY95 budget I will discuss with you today provides $626.2 million for the procurement of ammunition end items and $218.4 million for the government and commercial ammunition production base. It has been carefully developed to ensure that our soldiers have the optimum mix of ammunition for training and to fight and win quickly the next regional crisis, whenever and wherever it may occur. The budget also reflects some tradeoffs between prudent risks and affordability in meeting our national military strategic objectives. For example, the budget reflects a continued annual drawdown of approximately $570 million in war reserve ammunition to meet our annual training requirements.

The budget reflects an attempt to maximize our dollars in terms of readiness, modernization through technology insertion, and preservation of our ammunition industrial base. It supports 90 to 100 percent of our training requirements, the procurement of selected modern munitions, such as the 120mm tank cartridges for the M1A1 Abrams Tank, a robust ammunition demilitarization program, and the maintenance of critical production facilities.

A breakout of our end item ammunition procurement request by category of munitions is a follows:

(DOLLARS IN MILLIONS)	
SMALL/MEDIUM CALIBER	$141.7
TANK	$230.4
MORTAR	$ 28.3
MINES	$ 49.7
ROCKETS	$115.6
OTHER	$ 37.6
MISCELLANEOUS	$ 22.9
TOTAL	$626.2

Please allow me now to spend a few minutes on our ammunition production base accounts which have increasing importance, given the decreased ammunition hardware procurement levels needed to support our smaller force structure.

As I mentioned earlier, we have continued to evaluate our government and commercial ammunition production capabilities to meet our peacetime training requirements, to integrate emerging technologies, and to replenish combat losses in the event of hostilities. This must include the preservation of critical capabilities, processes and skills within the munitions base. We published our revised Ammunition Production Base Planning Study in December and continue to work closely with our industrial partners to refine our plan so that the future base is both rational and cost effective. We clearly recognize the many complex and important issues involved in the restructuring of the overall ammunition base. We also clearly recognize the uniqueness of this base which has few commercial spinoff products, requires high capital investment with relatively low returns, and produces specialized, hazardous products which are largely non-recyclable.

Our analyses to date confirms a significant shrinkage of both the governmental and commercial ammunition industrial bases. We believe that by the end of 1995, the number of government-owned-contractor-operated plants will shrink from the current 9 active plants to 6; and that the number of domestic commercial plants will shrink from 88 to 52. This does not include the thousands of 2nd and 3rd tier sub-contractor facilities scattered throughout the United States which may close due to reduced defense procurement orders. With this as a broad background, allow me to relate how the FY95 production base funding supports this future posture.

A breakout of our budget request is as follows:

(DOLLARS IN MILLIONS)	
MAINTENANCE OF INACTIVE INDUSTRIAL FACILITIES	$48.1
LAYAWAY OF INDUSTRIAL FACILITIES	$26.8
PROVISION OF INDUSTRIAL FACILITIES	$44.4
PROVING GROUND MODERNIZATION/ COMPONENTS FOR PROVE-OUT	$ 3.6
CONVENTIONAL AMMUNITION DEMILITARIZATION	$95.5
TOTAL	$218.4

Maintenance of Inactive Industrial Facilities (MIIF): These funds provide for the maintenance of previously laid away ammunition plants and inactive lines at both government and commercial plants determined to be critical for a responsible ammunition production base reactivation. It supports maintenance, protection and essential repair of government-owned equipment at these plants in anticipation of future production needs. We are continuing our efforts to analyze the probability of future use of our laid away facilities and to reduce these maintenance costs wherever possible. These savings are reflected in our FY95 request for $48.1M, a reduction of $11.7M from the FY94 funded level. Further savings will also accrue when we excess additional facilities in FY95.

Layaway of Industrial Facilities (LIF): These funds are used to put active plants and equipment no longer required for action production into a laid away posture for future peacetime or replenishment requirements. It supports plant clearance, equipment preservation, equipment transportation and environmental cleanup as required. Only absolutely essential facilities and equipment are being laid away with the balance being sold or excessed. As a direct result of this increased scrutiny, the FY95 request for $26.8M reflects a $21.2M reduction from the FY94 funded level.

Provision of Industrial Facilities: These funds support our active ammunition plants. They fund production equipment replacement, repairs to the infrastructure and corrections of safety and environmental deficiencies. The $4.2M increase over the FY94 funded level reflects our renewed determination to correct these long-standing deficiencies.

Conventional Ammunition Demilitarization: The stockpile of old, obsolete and unserviceable ammunition items requiring demilitarization will grow to 436,000 short tons by the end of FY94. While higher demil funding levels in recent years have allowed us to greatly expand our demil program, the accelerated closure of our overseas bases and reduced ammunition requirements have resulted in a net increase to the demilitarization stockpile.

The requested $95.5M in FY95 demilitarization funding will enable us to demil the annual generation of 35,000 short tons of ammunition and to reduce the demilitarization stockpile by another 60,000 short tons. This will free up scarce ammunition storage space, eliminate potentially unsafe and environmentally unsound conditions, and reduce inventory and surveillance costs. The funding will also provide much needed work for the government and commercial ammunition workforce. Beginning in FY94, we have greatly expanded our demilitarization program to include our government-owned-contractor-operated ammunition plants and have contracted with private industry to demil selected items.

We have also accelerated our efforts to find new and better demilitarization methods. This has become a necessity since environmental laws continue to limit traditional disposal methods such as open burning and open detonation. We have entered into cooperative programs with the other services and with industry to leverage these efforts.

One final point. The operations and maintenance funding for ammunition, while separate from the procurement appropriation, is a critical part of the overall ammunition program. These O&M dollars pay for the care and handling of the wholesale stockpile by the Army, as the Single Manager for Conventional Ammunition, for all the Services. Since the current defense planning guidance calls for fighting the next war with these on-hand stocks, it is imperative that they be maintained in the highest state of readiness. In your deliberations on the FY95 defense bill, I would ask that you keep in mind the importance of O&M funds for ammunition.

In conclusion, this ammunition budget represents a balanced program of procurement for both training and war reserve, demilitarization, and production base funding designed to retain our ability to arm and sustain the total force; a force that must be capable of generating the level of combat power essential to achieve dominance and decisive victory in support of the national military strategy. Thank you for your time and continued support and I look forward to working with you in the challenging days ahead. This concludes my formal presentation, subject to your questions.

Mr. MURTHA. Mr. McDade?

FUNCTIONAL AREA ASSESSMENT (FAA)

Mr. McDADE. Welcome in front of the Committee, General. We are delighted to get your testimony. It is always well thought out and well delivered.

A couple of questions, if I can, focusing on this functional area assessment. Would you define it for the Committee and tell us exactly what you mean by that?

General HOLMES. The functional area assessment (FAA) is a structured method the Army employs to provide a forum for the senior leadership to identify and resolve problems which inhibit execution of specified programs, usually in the near term.

Mr. McDADE. Manufacturing difficulties, or what kind of difficulties?

General HOLMES. In any area. For example, functional assessments are done in the ordnance/mission area where you look at the force structure, the soldiers, the skills required and missions required in the area.

The FAA for ammunition was directed by General Sullivan based on his growing concern about the ammunition area, General Sullivan directed that an FAA be done last fall.

Mr. McDADE. Who carried it out?

General HOLMES. General Sullivan directed the Vice Chief, General Peay, to be responsible for it. General Peay then tasked the Deputy Chief of Operations on the Army staff and the Assistant Secretary for Research, Development, and Acquisition; to actually perform the analysis.

Mr. McDADE. What specific areas were you involved in the analysis?

General HOLMES. We took an in-depth look at the overall requirements process focusing on how requirements are generated for war reserve munitions, how they are generated for training munitions, and how the industrial base is structured to respond to these requirements.

Then we took a detailed look at the stockpile because in the post-Cold War era, what we have in storage is what we will fight the next war with, so it is important that we understand the condition of that stockpile and that it is maintained in a high state of readiness.

So we took an in-depth look at surveillance and inventory and how the stockpile is maintained and stored.

Mr. McDADE. Has the Army signed off on conclusions?

General HOLMES. We briefed General Peay on February 8th and General Sullivan on March 7th. General Sullivan directed that the Deputy Chief of Staff for Operations and Plans and Department of the Army Chief of Staff-Program Analysis and Evaluation Directorate put together an abbreviated presentation to carry to Mr. Deutch at the Office of the Secretary of Defense (OSD). So we are in the process of doing that to take it up formally.

I have briefed the OSD staff informally, but we have yet to take it to them in a formal fashion.

Mr. McDADE. Would you state the conclusions of FAA with respect to training ammunition and war reserve ammunition?

General HOLMES. In looking at the training ammunition, we found that we support an annual training requirement of between $900 million and a billion each year. This requirement is met by a combination of new procurement and by using, or drawing down, those war reserve stockpiles that are used both for war reserve and training.

Our study, the FAA, recommended that we buy 100 percent of the training requirement each year throughout the program period.

For the war reserve munitions, we recommended that we increase the pace of modernization. We have currently identified 18 munition items that are candidates for modernization.

The current program calls for buying five of those over the program years. Our study recommended that we buy ten rather than five.

Mr. MCDADE. Would you focus on the industrial base question and state briefly what the conclusions of the FAA were with respect to industrial base?

General HOLMES. Yes, sir.

We took an in-depth look at how the industrial base is postured to respond to the requirements. We looked at it in two ways. First, if we are only going to consider the industrial base, what is the level of procurement required to keep the industrial base in some state of health. Then we looked at the other part of the program that we had analyzed.

If we executed buying the training and the war reserve munitions, what would be that effect on the industrial base? From this analysis, we determined that if we procure both war reserve and training munitions that we recommend, that would go a long way towards meeting the requirements for having a responsive industrial base.

There are certain areas that would require special attention. We looked carefully at artillery, which is an area of continuing concern, and we have to take some special measures in the artillery arena.

Mr. MCDADE. Would you identify for us, General, the funding shortfalls you found in the FAA study compared to the current budget in fiscal year 1996 and beyond?

General HOLMES. The FAA recommends a procurement appropriation budget averaging between $1.2 billion and $1.3 billion per year for the next six years. It also recommends an operation and maintenance Army appropriation budget averaging between $280 and $300 million per year for the next six years.

The Army Chief is pursuing these recommendations, taking them under advisement, and he proposes to present the results of that analysis to OSD.

Mr. MCDADE. What is the time frame for that, General?

General HOLMES. We hope to have it done some time in the next month in time to influence this year's programming cycle for the 1996 budget presentation.

Mr. MCDADE. Please answer for the record the conclusions of the Functional Area Assessment (FAA) with respect to the industrial base.

[The information follows:]

The Army's Conventional Ammunition Functional Area Assessment (FAA) identified areas within the industrial base that present a potential for loss of capability or responsiveness. This could be a result of already having adequate inventory in the stockpile or could be based on funding levels and Army priorities. The areas of concern identified were: Artillery; Propelling Charges; Medium Caliber Munitions (25–40 Millimeter); Dispenser Munitions (Air Force items); and Pyrotechnics.

The recommendations from the FAA, if accepted and implemented, will address these areas through procurement of 100 percent of the training requirement, procurement of additional modern munitions, restoring the stockpile of training standard munitions to specified levels, and providing additional funds for production base support (layaway of facilities and maintenance of inactive industrial facilities).

AMMUNITION FUNDING

Mr. McDADE. I take it your thrust in trying to meet the deficiencies that you have discovered is to try to get through to OSD and get in their planning cycle.

General HOLMES. Yes, sir.

Mr. McDADE. For the second year in a row, there is no money in the budget for ammunition procurement for artillery. What is the reason for that?

General HOLMES. The reason is that there are no requirements for artillery procurement in the near term. We are buying out the requirements of the base bleed round. We have more than adequate stockpiles for training and so there is no requirement for artillery.

As I mentioned when we were discussing the FAA, this was identified as an area that requires special attention and we are looking very carefully at this aspect of the industrial base implications in particular.

Mr. McDADE. Yes.

The industrial base problems with respect to artillery ammunition are the worst you have, aren't they?

General HOLMES. Yes, sir.

Mr. McDADE. I would yield to my friend from Louisiana, Mr. Livingston.

AMMUNITION STOCKPILE

Mr. LIVINGSTON. Thank you.

General, I have just gone through with Mr. Visclosky an in-depth briefing on this subject and from what I understand, you have various grades of material that are stockpiled. Some of it is flat out dangerous. Some of it is absolutely unusable. Some of it is inferior enough that the only thing you can use it for is training and by the time you are talking about high-performance stuff, that you actually put in the field for use you might be able to get through fiscal year 1995, but you can't get through anything beyond that, especially if we end up having conflicts on two separate fronts; would you agree?

General HOLMES. You are talking about the composition of the stockpile, which is composed of various aspects.

The stockpile that the Army, as the single manager for conventional ammunition is responsible for stored in the United States is three million tons; maybe a little more. About 412,000 tons is in what we call the demil account, munitions that are obsolete——

Mr. MURTHA. You are not answering the question. He is inferring that because of the composition of the ammunition stockpile, there is a shortfall of serviceable ammunition.

Now, do we have a shortfall of the ammunition or do we not? In other words, is some of this ammunition inadequate and yet you are carrying it as part of the inventory?

General HOLMES. No, sir. There is no shortfall. We have more than sufficient assets to execute the defense planning guidance which calls for conduct of two nearly simultaneous conflicts.

Mr. LIVINGSTON. As of 1995.

General HOLMES. Yes, sir.

Mr. LIVINGSTON. Beyond that, as I understand it, you have a big problem facing you especially when we are not procuring the stuff. I am not talking about plain bullet ammunition—artillery stuff, munitions for heavy artillery and also airplanes.

We are eating our seed corn, aren't we?

General HOLMES. Sir, if we are looking at the stockpile, there is a category of preferred munitions, those that are the front-line munitions that I mentioned in my opening remarks, about 18 candidates of those have been identified for modernization.

We are short in some of those categories, but we have more than adequate stocks of fully serviceable munitions that are totally suitable for combat operations in the inventory.

Mr. LIVINGSTON. For 105 and 155 millimeters?

General HOLMES. Yes, sir.

Mr. LIVINGSTON. Do you have enough to last you until 1998?

General HOLMES. Yes, sir.

Mr. LIVINGSTON. If we have a war on two fronts?

General HOLMES. Yes, sir.

Mr. LIVINGSTON. You have plenty?

General HOLMES. Yes, sir.

Mr. MURTHA. If the gentleman would yield.

This FAA study, the staff points out to me, says that in order to correct what Mr. Livingston is asking about, you would have to buy 18 items of ammunition and you are only buying 5. This Committee is probably more responsible for the adequate supply of ammunition than any other Committee.

Under Mr. McDade's expert leadership and now Mr. Livingston and Mr. Visclosky, we are trying to help the ammunition situation. We want you to give us the facts. If you have a problem, we want to know about it because we want to make sure as we work through this budget that certainly we don't have a problem here. We want to take care of this problem.

General HOLMES. Yes, sir, and I deeply appreciate that. The point I am trying to make was that we do indeed have 18 items of munition that we have identified as candidates for modernization. The current budget only procures 5 of these 18.

The FAA recommends that we procure 10 rather than 5 of the 18 and that will move us up another notch, another level of capability for modernization.

Mr. MURTHA. In your professional opinion, do you think that you should be buying 10 this year? Is this a problem? If we commit soldiers to a war, it will be too late to produce the ammunition. We don't want to have people killed because we don't have adequate supplies of ammunition.

Mr. LIVINGSTON. Or inadequate ammunition.

General HOLMES. I would say that the fiscal year 1995 program provides for an adequate start on modernization. We need to look at fiscal year 1996 and beyond and that is where we focused in the FAA.

DISPOSAL OF UNUSABLE AMMUNITION STEMS

Mr. LIVINGSTON. I am told that some of the stuff in the stockpile is dangerous. Do you deny that, and if you do not deny it, what are we doing to get rid of it?

General HOLMES. There are some small parts of the stockpile which require disposal, but it is a very small portion, things like propellant that has expired past its shelf life.

Mr. LIVINGSTON. I am told that may be 10, 15 percent of our stockpile.

General HOLMES. No, sir. I do not agree with that figure.

Mr. LIVINGSTON. Some of the stuff is not dangerous to stockpile, but not good enough to give trainees for training. So you wouldn't include any one of those categories in a modern-day stockpile because it is unusable, isn't it?

General HOLMES. Yes, sir. About 14 percent of the stockpile the Army is responsible for is in the demil category, either obsolete or unserviceable. For example, the eight-inch artillery projectiles are obsolete since the eight-inch Howitzer is no longer in the active force inventory. So all of those munitions are in the demil account and that is about 14 percent of the stockpile.

Mr. LIVINGSTON. You don't have money to get rid of it, do you?

General HOLMES. This committee has been supportive of that. In fiscal year 1995 and fiscal year 1996, we are requesting about $100 million in each one of those years to begin working off the backlog for demil and the Committee has helped us in the past in funding demil at a robust level.

COMBAT READY MUNITIONS

Mr. LIVINGSTON. My friend from Pennsylvania has been very indulgent.

I have one last question, General. If we were to get in a blow-up, two blow-ups, one in Central Europe, one in, say, Korea. How many days could we last in the—in conflict with current stockpiles of useable ammunition—I am not talking about training ammunition, not talking about the demil stuff, stuff that you can feel comfortable giving to the troops and they can put it in their weapon and go?

General HOLMES. We have adequate stockpile of combat-ready munitions to execute the current planning guidance of the two MRCs.

Mr. LIVINGSTON. How many days?

General HOLMES. The defense guidance calls for 180 days of conflict with about ———.

Mr. LIVINGSTON. That is one front or two?

General HOLMES. For the two MRC's.

Mr. MCDADE. Would you yield?

I think your question and the response sharpens the issue because the issue, as you plan out for a couple of years, if you start living off your stocks and living off the reserves and you get into a problem, your stocks could come to a zero and the industrial base is gone, the question of modernization is gone unless you are replenishing. This is why come 1996, as I understand it, you hope to get through the bureaucratic maze on the other side of the river and get yourself up to over a billion dollars in ammo procurement.

General HOLMES. That is right.

FUNDING SHORTFALL

Mr. MCDADE. The chairman said to you, if you have a problem early on that you identify it. This Committee is a partner in making those decisions and we want your professional opinion—the gentleman from Louisiana said to you that there is a serious problem and crunch there. You are trying to attack it in 1996.

Do we need to attack it in an earlier time frame and what areas?

General HOLMES. There are some areas in fiscal year 1995 that should we get additional total obligation authority that we could put to good use and get a running start on the FAA.

I will submit for the record our suggestions on that.

[The information follows:]

There are some actions that could be taken in fiscal year (FY) 1995 to address deficiencies found in the Function Area Assessment (FAA). This office recommends a congressional plus-up of $173.5 million (M) in FY95 to satisfy war reserve, training and production base deficiencies as follows:

Item	Dollars (millions)	Reason
5.56 Millimeter All Types	$10.5	Funds will be used to procure additional M855 Ball cartridge. Stockage level is well below the war reserve requirement.
25 Millimeter, All Types	25.0	Funds will be used to procure approximately 174 thousand(K) M919 cartridge in support of the war reserve stockpile.
40 Millimeter, All Types	8.6	Funds will be used to procure 495K Target Practice (TP) rounds for the MK19. These additional rounds are required to support the pipeline and new weapons fieldings.
60 Millimeter, Mortar, M840	3.0	Funds will be used to procure 3,436 cartridges to support training.
120 Millimeter, Tank	26.0	Funds will buy an additional 8K rounds in support of the war reserve stockpile.
105 Millimeter, High Explosive Rocket Assisted Cartridge (HERA), M913.	25.0	Funds will be used to support war reserve build-up.
Volcano	16.0	Funds will buy an additional 7K rounds in support of war reserve build-up.
Layaway of Industrial Facility	59.4	Funds will support asbestos removal and disposal/decontamination of equipment at various plants.

Mr. LIVINGSTON. Could you separate each critical category of ammunition and give us the days that you might expect that they would last. I think that would help us, rather than bundling it all together.

[The information follows:]

We no longer measure readiness by days of supply; instead, we measure percent of fill to the requirement. The list below provides the percent of fill for our war reserve modernization items.

Item:	*Percent*[1]
Cartridge 120mm Tank APFSDS–T M829A2	Deleted.
Cartridge 120mm Tank HEAT–MP–T M830A1	Deleted.
Cartridge 105mm Tank APFSDS–T M900A1	Deleted.

Projectile 155m Baseburner M864	Deleted.
Cartridge Artillery 105mm HERA M913	Deleted.
Mine AT/AP M87 (VOLCANO)	Deleted.
Cartridge 25mm APFSDS–T M919	Deleted.
Cartridge Mortar 120mm SMOKE XM929 W/MO Fuze	Deleted.
Cartridge Mortar 60mm ILLUM M721	Deleted.
Bunker Defeating Munition (Tactical)	Deleted.
Rocket Hydra 70 HE/PD M151/M423	Deleted.
Rocket Hydra 70 MPSM HE M261 HWD	Deleted.
Charge Demolition Cratering 40 lb	Deleted.
Charge Demolition Block Comp C–4 1¼ lb M112	Deleted.
Charge Demolition Shaped M3 40 lb	Deleted.

[1] Fill fiscal year 1995.

Mr. McDade. Whatever you get for the record, make sure it comes to Mr. Willson and make a copy for the Committee.

Mr. Chairman, Congressman Jim Lightfoot, a Member of the House Appropriations Committee, has questions to be answered for the record.

[Clerk's note.—Questions submitted by Mr. Lightfoot and the answers thereto follow:]

IOWA ARMY AMMUNITION PLANT

Question. In fiscal year (FY) 1993, the House earmarked $2.5 million for two projects, facilitizing a midwest area demilitarization facility and studying the use of plasma arc technology in ammunition demilitarization at the Iowa Army Ammunition Plant (IAAP). In FY94, the committee directed that an additional $1 million be used to continue in the demilitarization upgrade plan. For the record, please provide a status report on this upgrade project and the funding necessary to complete facilitization of the fully capable, environmentally friendly, midwest area demilitarization facility.

Answer. The initial plan to facilitize a midwest area demilitarization facility was to install an Ammunition Peculiar Equipment (APE) 1236 incinerator at IAAP. However, a subsequent review by IAAP personnel determined that the installation of a calciner would be preferred over the APE 1236. (A calciner functions ammunition items through the indirect application of heat, with the gasses generated by the destruction process being passed through filters to meet environmental requirements.) Since the specific funding and installation requirements for a calciner would not be available during FY93, a decision was made to develop a capability to demilitarize 90 millimeter cartridges ($352 thousand for facilities and $825 thousand for operations) and to initiate a study for performing reclamation of depleted uranium ammunition ($24 thousand).

For FY94, $681 thousand from the conventional ammunition demilitarization program and $340 thousand from the APE program have been programmed for facilitization of a depleted uranium demilitarization line. In addition, IAAP personnel are continuing to define the costs and installation requirements for a calciner.

The plasma arc study was funded at $500 thousand in FY93 and is ongoing.

To date, $1.87 million of the $3.5 million from the FY93 and FY94 appropriations have been programmed for IAAP. The remaining $1.603 million will be used to facilitize the calciner and plasma arc projects. Additional funding requirements to complete these projects have not been finalized by IAAP and are unknown at this time.

Question. In FY94, the Committee directed that FY95 funds be programmed for the installation of a plasma furnace at the IAAP should feasibility of this process be shown. For the record, has feasibility of this technology been demonstrated and, if so, have funds been programmed for this purpose?

Answer. Plasma arc has yet to be feasibility tested. The plasma arc feasibility study objective is to evaluate the feasibility of using Mason & Hanger's Plasma Energy Applied Technology Incorporated, plasma arc furnace process for demilitarization of pyrotechnic, smoke and dye ordnance. Award date for this study was September 30, 1993. The overall test plan delivery and study initiation are scheduled for May 1994. Project completion is scheduled for second quarter, FY95.

[CLERK'S NOTE.—End of questions submitted by Mr. Lightfoot.]

Mr. MCDADE. I have a series of questions to submit for the record, if I may, Mr. Chairman, at this juncture.

[CLERK'S NOTE.—Questions submitted by Mr. McDade and the answers thereto follow:]

MORTAR AMMUNITION

Question. 60 millimeter (mm) Mortar Training Round. The Army has been procuring the M840 60mm short range practice cartridge for several years. This year's budget requests only $305,000 for this program. I understand this is an inexecutable amount and that at least $3 million more is required for fiscal year (FY) 1995. Would you comment? For the record, provide the previously funded inventory, overall inventory objectives, and future planned procurements for the M840.

Answer. The M840 60mm mortar short range training cartridge was type Classified—Standard in June 1993. We also changed the model number at that time from the M840 to the M766. The Army is procuring the initial production quantities of 8,858 cartridges and 151,872 refurbishment kit from Pocal Industries, Inc., the development contractor, with its FY93 and FY94 funded programs. The FY95 program of $305,000 is inexecutable as a stand alone procurement. An additional $3.0 million will allow the Army to procure a total of 3,436 cartridges and 82,464 refurbishment kits in FY95. We are currently planning to effect competitive procurement of 10,000 cartridges and 240,000 kits from FY96 through FY99.

Question. 120mm Mortar. The budget does not request funding for any 120mm mortar high explosive rounds. Last year, Congress approved a reprogramming action for the 120mm mortar ammunition program which had the effect of substituting for a fiscal year 1994 procurement. In terms of maintaining a smooth production run, are these previously approved funds also sufficient to offset the lack of a fiscal year 1995 funded program or is there a possibility of a line break? If the latter, what funding is required in fiscal year 1995 to preserve a production run at economical rates?

Answer. There is the possibility of a break in the production of 120mm mortar ammunition in May 1996. This potential break may be unavoidable due to the nonavailability of M734E1 fuzes.

Question. We have heard that there have been delays regarding the 120mm mortar smoke round. Why has first article test on this round not yet been completed? Provide for the record the current milestone schedule for this program.

Answer. Martin Marietta Ordnance Systems (MMOS), the current 120mm mortar system contractor, delivered first article test (FAT) samples to Yuma Proving Ground on December 17, 1993. The FAT was completed January 9, 1994. The cartridge failed FAT due to a misfire; the Government notified MMOS on January 19, 1994. MMOS then submitted its failure analysis report which correlated the smoke misfire problem to the 120mm mortar high explosive (HE) cartridge misfire problem currently under investigation. The resolution of the problem will determine the scope of retesting required and its effect on the planned delivery schedule.

Question: Last year, the Army announced plans to conduct a competition to determine who the prime contractor will be for the 120 millimeter (mm) Mortar Ammunition program, with ammunition metal parts to be produced at the Scranton Army Ammunition Plant (SAAP). Is this still the case? When will solicitation, source selection, and scheduled procurements resulting from this competition take place? What assurances are there that the new prime contractor will retain SAAP as its metal parts producer?

Answer. Yes, the Army is competing the next production of 120mm Mortar High Explosive (HE) Ammunition. The Army issued a competitive solicitation on March 15, 1994. It directs cartridge body production must be performed under subcontract to Chamberlain Manufacturing Company at Scranton Army Ammunition Plant. Excessive misfires are being experienced during testing of the initial production deliveries of 120mm Mortar HE Ammunition from Martin Marietta Ordnance Systems Inc. (MMOS). The cause of the problem is currently under investigation. The solution may result in substantive changes to the technical data package; therefore, the solicitation closing date (currently planned for April 29, 1994) is subject to change. As a result, the projected contract award date is also indefinite.

Question. Provide for the record the current funded delivery periods for all ongoing 120mm ammunition procurements as well as that requested in the fiscal year 1995 budget.

Answer. The procurement quantities funded to date and the delivery schedule is as follows:

	M933 HEPD	M934 HEMO	XM929
Procurement quantity:			
Fiscal year 1992 and prior	284	167	42
Fiscal year 1993	0	0	0
Fiscal year 1994	0	0	0
Fiscal year 1995	0	0	17
Deliveries—1994:			
March	20	0	0
April	0	20	0
May	0	20	0
June	0	20	0
July	0	20	0
August	9	14	1
September	0	14	4
October	0	0	2
November	17	0	5
December	0	0	5
1995:			
January	0	0	5
February	17	0	5
March	20	0	5
April	20	0	5
May	20	0	5
June	0	20	0
July	0	20	0
August	0	19	0
September	20	0	0
October	20	0	0
November	20	0	0
December	20	0	0
1996:			
January	20	0	0
Februaru	20	0	0
March	20	0	0
April	21	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	3
1997:			
January	0	0	4
Februaru	0	0	5
March	0	0	5

Question. I understand there are funding shortfalls in fiscal year 1995 in your Research Development Test and Evaluation (RDT&E) accounts for development of both the XM930 illumination cartridge and the XM931 full range training cartridge. Please provide details for the record.

Answer. In order to meet operational requirements for a full family of ammunition for the 120 millimeter (mm) Battalion Mortar System, the Army requires additional RDT&E funds for Program Element 644802, Project D613.

$2 million is required to complete development and type classification of XM931 120mm mortar full range training cartridge;

$6.1 million dollars is required to execute two materiel changes to the XM930 120mm illumination cartridge. One will support Type Classification—Standard by Americanizing the technical data package to incorporate standard components and accepted on-shore production methods; the other will qualify an infrared illumination fill. The infrared fill illuminates and enhances view of objects through night vision devices but is not visible to the naked eye. Because there are currently no U.S.-produced mortar time fuzes which meet requirements for use on the 120mm mortar illumination cartridge, the Army will need to procure time fuzes offshore to support the development and initial production programs of both the XM930 and XM930E1.

Question. Provide for the record the previously funded inventory, and overall inventory objectives for all 120mm High Explosive (HE), smoke, and illumination and training rounds.

Answer.

FUNDED ASSETS THROUGH FY95

[In thousands]

Procurement	Delivered		Undelivered		Objective[1]
	NDI	U.S.	NDI	U.S.	
M933 High Explosive Device	59	0	0	284	85
M934 High Explosive Multi-Option	0	0	0	167	640
M930 Illuminating	9	0	0	0	135
XM929 Smoke	0	0	0	59	140
XM931 Training	0	0	0	0	133

[1] Through fiscal year 2001, including training procurement.

ARTILLERY AMMUNITION

Question. What is the status of the artillery ammunition industrial base today—for all components and processes—and what will become of this base given the Army's current and prospective ammunition procurement budgets? Doesn't the Conventional Ammunition Functional Area Assessment (FAA) identify artillery as being in the worst shape thus taking longer to reconstitute than any other elements?

Answer. Today's artillery base is being downsized. Portions of the base are going cold. There are not enough procurements to keep all producers warm. Given current budgets, the base will be less responsive. Longer reaction time will be needed to support any request for product.

The Army is deeply concerned about these present day realities. Our recently concluded Functional Area Assessment (FAA) for Conventional Ammunition identified artillery as an area of particular concern. As a result of our evaluation, we are considering measures which can be taken to begin reversing this direction with the fiscal year (FY) 1995 budget. Beyond that, we are working to allocate substantial additional resources for all aspects to our conventional munitions capability for the Future Year Defense Program period fiscal years (FY) 1996 through 2001. This commitment is to ensure our ability not only to produce munitions but also to continue to deploy those items which will assure our technological superiority on the battlefield.

Question. What elements of the artillery ammunition industrial base are considered critical to retain for replenishment and future production of new rounds?

Answer. The manufacture of projectile metal parts (to include fuzes) and load, assemble, and pack are critical elements of the artillery base which gave us the greatest concern.

Question. What are your plans for retaining these elements? To what extent are your plans funded in the budget? What corrective actions are in the Functional Area Assessment (FAA)?

Answer. We did not request funding for our artillery capability in the fiscal year 1995 President's Budget. This was a combined function of constrained resources and consideration of the ability of our existing stockpile to meet our Defense Guidance. Since that time, we have responded to Congressional queries concerning areas where the application of additional resources would provide some relief for the artillery production base in the short term. Things for which we already have efforts ongoing include the pursuit of facility contracts and the utilization of the Armament Retooling and Manufacturing Support program to maintain the viability of producers and skills. Further, the accepted recommendations from the FAA will ensure the reduction of the base erosion through a multiplicity of actions:

Cease the draw against our war reserve assets to support training. This entails the reprocurement of those shortages already generated.

Fund our training requirements at 100 percent.

Fund a measured modernization of our war reserve munitions.

All of these actions will serve to place production demands upon an admittedly smaller base; however, it will permit us to maintain that base at a much higher state of readiness. These plans are designated for application during the FY96 through FY01 cycle.

Question. The Functional Area Assessment identified the M795 155 millimeter artillery round as one of eighteen items necessary to produce for war reserve modernization. Describe the round and its current development/testing status.

Answer. The M795 is a 155 millimeter high explosive-filled projectile which is part of the M483 family of ballistically similar howitzer ammunition. It will supplement and may eventually replace the existing M107 high explosive projectile, providing a 24 percent increase in range utilizing the M203A1 propelling charge (zone 8). It weighs slightly more than 100 pounds. Its body is made of high fragmentation forged steel, carrying a 23.8 pound payload. It uses impact, mechanical or electrical time, and short intrusion proximity fuzes. It is Type Classified (TC)—Standard and has never been produced.

Question. What is the Army's requirement for this round compared to the current inventory?

Answer. A supplemental requirement has recently been established for the M795 which is approximately 28 percent of that for the M107.

Question. What would be the procurement strategy for this round if the Army were to procure it? Who would manufacture the various components?

Answer. If procured, the Army would quite likely pursue a component breakout strategy with load, assemble and pack (LAP) being performed at Iowa Army Ammunition Plant (IAAP), the Group Technology Center for such operations. Fuzes would be Government Furnished Material (GFM) as would the explosive fill, which is manufactured by Holston Army Ammunition Plant in Tennessee. Metal parts would be competed to ensure the best available price to the Government.

Question. Provide an appropriate procurement profile, showing quantities and costs, beginning in fiscal year (FY) 1995.

Answer. The Government has not conducted a formal pricing effort for this projectile; however, current estimates should allow us to execute a funding profile close to that which follows.

	Fiscal year—						
	1995	1996	1997	1998	1999	2000	2001
Dollars (Millions)	0	20	42.7	44.2	44.2	43.3	0
Quantity (Thousands)	0	0	60	60	60	60	0

The first year's procurement includes normal one-time program cost as well as the cost for LAP facilitization at IAAP.

Question. What other new artillery projectiles does the Army have in development or ready for production? For each, provide the information requested for the M795 in the preceding question.

Answer. The Army has five other artillery shells either ready for production or under development:

> 105 millimeter—M760 high explosive, extended range; XM927 high explosive, rocket assisted; XM915/6 dual purpose improved conventional munition cartridges.
>
> 155 millimeter—XM982 extended range cargo projectile.

Question. Describe the 105 millimeter M760 high explosive, extended range cartridge and its current development/testing status.

Answer. The M760 is a modified M1 high explosive cartridge. It is produced by replacing the M1's M67 propelling charge with an M200 propelling charge. Other components include the M28B2 percussion primer, the M14B4 cartridge cases, and the M1 projectile. The M200 propelling charge provides the M760 with a substantial range increase over the M1. It can only be fired from the M119 howitzer.

Question. What is the Army's requirement for this round compared to the current inventory?

Answer. We have sufficient assets on hand to meet the requirement.

Question. What would be the procurement strategy for this round if the Army were to procure it? Who would manufacture the various components?

Answer. We have not considered a procurement strategy since we have sufficient assets to meet our requirement.

Question. Provide an appropriate procurement profile, showing quantities and costs, beginning in fiscal year 1995.

Answer. Since we have no requirement to procure this cartridge, we have not developed a procurement profile.

Question. Describe the 105 millimeter XM927 high explosive, rocket assisted cartridge and its current development/testing status.

Answer. The XM927 is a short range version of the XM913 high explosive, rocket assisted cartridge. It utilizes an M67 propelling charge in place of the M200 employed by XM913. The XM927 provides a rocket assisted cartridge for use with the older 105 millimeter set of howitzers. It is being type classified by Congressional direction but will not be procured for Army use.

Question. What is the Army's requirement for this round compared to the current inventory?

Answer. We do not have a requirement. Neither do we have any assets since the cartridge has never been produced.

Question. What would be the procurement strategy for this round if the Army were to procure it? Who would manufacture the various components?

Answer. We have not considered a procurement strategy since no requirement exists for the cartridge.

Question. Provide an appropriate procurement profile, showing quantities and costs, beginning in fiscal year 1995.

Answer. Since we have no requirement to procure this cartridge, we have not developed a procurement profile.

Question. Describe the 105 millimeter XM915/6 dual purpose improved conventional munition cartridges and their current development/testing status.

Answer. The XM015/6 cartridge pair provides dual purpose improved conventional munition capability at extended ranges for the entire group of American manufactured 105 millimeter howitzers. The XM916 fires at shorter ranges, overlapping into the short end of the range coverage provided by the XM915. The XM915, employing an M200 propelling charge, can only be used with the M119 howitzer system. The cartridges are well advanced in their development and will employ a new generation of self destruct fuzing (the XM234) for their submunitions (XM80 grenade). Type classification is projected for fiscal year 1996 with procurements planned to begin in fiscal year 1997.

Question. What is the Army's requirement for this round compared to the current inventory?

Answer. The newly established requirement is slightly in excess of 33 percent of the total 105 millimeter howitzer ammunition requirement.

Question. What would be the procurement strategy for this round if the Army were to procure it? Who would manufacture the various components?

Answer. Our current consideration is to offer the initial procurement contracts to the developers. Developing contractors:

Projectile metal parts—Chamberlain (Scranton);
XM217E1 cartridge case—Norris Industries, Inc.;
XM80 grenade metal parts—AMRON Corporation;
XM234 self-destruct fuze—KDI Precision Products, Inc.

Question. Provide an appropriate procurement profile, showing quantities and costs, beginning in fiscal year 1995.

Answer. The procurement profile will be determined when the Army builds its fiscal year 1996 through 2001 planning documents.

Question. Describe the 155 millimeter XM982 extended range cargo projectile and its current development/testing status.

Answer. The 155 millimeter XM982 extended range cargo carrying projectile is designed to be a common projectile which may be used to carry varying cargoes at extended ranges. Its design concept includes the use of a rocket assist and baseburn assembly to achieve the desired ranges.

In FY93 we completed the design and test of critical components which include the rocket motor, expulsion charge, and fuzing. In first quarter fiscal year 1994, exploratory development (6.2) contracts were awarded:

Propellant, Talley Defense System, Inc. (Mesa, AZ);
Fuzing, Alliant Techsystems, Inc. (Minneapolis, MN);
Metal parts, Ferrulmatic, Inc. (Totowa, NJ).

The following Demonstration/Validation contracts are in process;

Metal parts (we have received the Best and Final Offers);
Fuzing (solicitation on the street);
Propellant (solicitation on the street).

Other accomplishments include replacing the cargo of 72 M42 grenades with 96 XM80 (will contain XM234 self-destruct fuzes) grenades; drop testing; finite element analysis; preparation of technical data; and design of test fixtures. For the balance of fiscal year 1994 we will continue in-house testing at the U.S. Army Armament Research, Development, and Engineering Center (ARDEC) and perform some full-up flight testing at Yuma Proving Ground using various weapon and propellant combinations. This effort will continue into fiscal year 1995.

Type Classification—Standard is scheduled for second quarter, fiscal year 2000 with production to commence in that same year.

Question. What is the Army's requirement for this round compared to the current inventory?

Question. The Army has yet to establish a numerical requirement for this projectile.

Question. What would be the procurement strategy for this round if the Army were to procure it? Who would manufacture the various components?

Answer. We have yet to define the procurement strategy.

Question. Provide an appropriate procurement profile, showing quantities and costs, beginning in fiscal year 1995.

Answer. The procurement profile will be considered when the Army builds its fiscal year 1996 through 2001 planning document.

LOUISIANA ARMY AMMUNITION PLANT

Question. In October of this year, the Louisiana Army Ammunition Plant (LAAP) is scheduled to be placed in layaway status following completion of the M–864 baseburner program. Are there any plans for third-party production of ammunition at this facility? If so, please summarize.

Answer. Louisiana is pursuing third-party work. During fiscal year 1994, three requests for use of facilities were processed through this headquarters (HQ), as follows:

Demilitarization High Explosive Projectiles & Cartridge Cases—Approved by HQ, Armament, Munitions & Chemical Command.

Produce test units of Thermoplastic Explosive—Approved by HQ, Armament, Munitions & Chemical Command.

Disassembly of Rocket Mortars and Warheads—In Process.

Question. What plans, if any, are there for the use of Armament Retooling and Manufacturing Support (ARMS) Initiative funding at Louisiana Army Ammunition Plant (LAAP)?

Answer. Our milestone schedule shows LAAP signs their Facility Use Contract (under the Armament Retooling and Manufacturing Support (ARMS) Initiative) in June 1994. At that time, LAAP will have access to the full range of ARMS Initiative funds.

Question. Last year, Congress provided $7.5 million for establishment of a flexible manufacturing capability at Louisiana Army Plant (LAAP). Does the Army intend to obligate these funds? Describe what capability will be established. Why would the Army obligate these funds if LAAP is scheduled for layaway and there is no projected production of ammunition projectile metal parts contemplated for LAAP?

Answer. Army will comply with appropriation mark when funds are released. The increased funding will be used to enhance the existing metal parts capability of the Y-Line by adding equipment. In conjunction with the existing equipment, this added capability increases LAAP's ability to pursue third-party work within the commercial sector.

M–864 CONVERSION PROGRAM

Question. Last year, Congress provided $25 million to demonstrate the feasibility of converting M–483 155 millimeter artillery shells to the M864 baseburn configuration. Does the Army intend to proceed with this initiative? If not, why?

Answer. The Army's war reserve requirement for the M864 projectile has decreased dramatically. Given procurements in progress, the Army does not intend to proceed with the initiative. Funds for the initiative have been appropriated, but not authorized.

Question. How will the Army implement this program if it goes forward?

Answer. The Army does not intend to implement the program.

NAVY 5″ 54 CALIBER AMMUNITION

Question. As the Single Manager for Conventional Ammunition, the Army manages the procurement of Navy 5-inch 54-caliber 5-in/54) ammunition. Last year, the Scranton Army Ammunition Plant (SAAP) won the production contract for 5-in/54. Will Scranton Army Ammunition Plant (SAAP) be designated a "restricted base producer" for the 5-inch/54? Are there any other restricted base producers for this item? If SAAP is so designated, what does this imply for future 5-inch/54 procurements?

Answer. If Chamberlain Manufacturing Corporation—Scranton Division (CMC–SD) is successful with their MK 64 metal parts First Article Test (FAT), the Army intends to designate them as the Restricted Specified Base (RSB) producer for Mark 64 Modification 1 and 2 projectile bodies. Currently, there are no other designated RSB producers for MK 64 projectile metal parts. The implication for future 5-inch/54 procurements is that CMC–SD, if designated as the RSB producer, will be the sole recipient of any future solicitations assuming requirements remain within their capacity.

Question. What is the planned acquisition program, including the acquisition strategy, and schedule for solicitation, contract award and production for the fiscal year (FY) 1994 and requested fiscal year 1995 procurements of the 5-inch/54?

Answer. The planned acquisition program for FY94 is approximately 70,000 projectiles. We plan to exercise the firm option (for up to 130,000 total projectiles) in order to award the FY94 U.S. Navy requirement into the present contract only after successful completion of the First Article Test (FAT). Exercise of the option is forecast for third quarter FY94.

The FY94 Navy requirement is 8,100 projectiles. A separate solicitation will be required since the existing option will have expired prior to receipt of funding for the FY95 program. FY96 through FY98 requirements are projected at 60,000 projectiles per year.

GROUP TECHNOLOGY CENTER

Question. As part of its production base planning, the Army intends to establish "Group Technology Centers" and "Specified Mission Facilities" at specific government-owned ammunition plants. All those facilities so designated deal with explosives production or loading, with the exception of one facility dedicated to small caliber ammunition. Previous testimony suggests the Army is prepared to workload these facilities beyond those amounts needed strictly to adhere to requirements, if necessary, to preserve an industrial base for the specialty involved. Is this true? If so, why?

Answer. The Army is preserving critical Industrial Base Capabilities at a viable level. The quantities assigned Group Technology Centers (GTC) and Specified Mission Facilities (SMF) are determined from a variety of factors, including planning quantities, maintaining skills and capabilities, economics, and other work at the plant.

Question. The Lake City Army Ammunition Plant (AAP) has been designated as the GTC for Small Caliber 20 millimeter (mm)

Ammunition. Why is it the only metal parts production facility so designated?

Answer. Lake City AAP has state-of-the-art equipment to more than satisfy the current and projected U.S. Armed Forces needs. Because of its advanced manufacturing capabilities, Lake City is one of the GTCs for load, assemble and pack of 5.56mm to 20mm. Lake City's capacity is 270 million rounds of small arms ammunition per month. Lake City has some metal parts production for primer cups, bullets and bullet cores. Cartridge case cups and bullet jackets, however, are produced by Olin Brass, Outokumpu American Brass, Texas Instrument and AMRON. Various size links for all items are produced by Greene International and VALENTEC Wells. There also is an extensive base for various 20mm rounds. Some 20mm items are loaded, assembled, and packed at Lake City, while some are commercially produced by Olin Marion and VALENTEC Galion. These items include the PGU 28 main combat round and the PGU 27 and 30 training rounds.

Question. There is no facility designated for production of medium-to-large-caliber metal parts for artillery and mortars, despite the fact that all commercial producers of such items have already or will soon shut down their lines. Why is there no facility designated as a "Group Technology Center" (GTC) or "Specified Mission Facility" (SMF) for medium-to-large caliber artillery and/or mortar metal parts?

Answer. GTCs are identified to produce a specific family of items utilizing efficient and effective facilities, equipment and skilled cadre to realistically maintain an industrial base capable of providing today's reduced peacetime requirements. The Army philosophy is that, generally, the commercial sector will supply metal parts. In addition to this, there are not enough planned buys in the future year defense program to support a metal parts GTC because assets of end items are sufficient. Solicitations for current items will be directed to the appropriate existing Restricted Specified Base (RSB) producers. New items being introduced to the base, or reestablishment of existing base items, will normally be competed. Both commercial producers and Government-owned, contractor-operated (GOCO) facilities use contracts will be allowed to bid on U.S. and Canadian solicitations. Since the four metal parts GOCOs have signed, or plan to sign, facilities use contracts in the near future, they and the existing commercial firms producing private and government products provide adequate base support to this specific producer for metal parts.

Question. At the end of this year, the Scranton Army Ammunition Plant (SAAP) will be the only government-owned facility still producing large caliber metal parts (under third party contracts). SAAP is perhaps unique among all metal parts producers in that it has demonstrated the capability to produce 105 millimeter (mm), 155mm and 8-inch artillery ammunition, as well as mortar ammunition. In addition, it has been selected to produce 5-inch shells for the Navy. Shouldn't Scranton, for production base purposes, be designated the Army's "Group Technology Center" (GTC) for large caliber ammunition? If not, why not?

Answer. At the end of the year, all four Government-owned, Contractor-operated (GOCO) facilities are expected to be operating under facilities use contracts: Mississippi Army Ammunition (AAP)—March 1992, Riverbank AAP—April 1994, Scranton AAP—April 94, and Louisiana AAP—June 1994. With the end of M864 production, SAAP is currently planned to be inactivated, except for the pending facilities contract. This facilities use contract will allow the operating contractor to bid as a sub-contractor and on the third party M509 (one of the 8-inch items which are no longer required U.S. Services items). Other Reserve Specified Base (RSB) producers, as well as certain Contractor-owned, Contractor-operated (COCO), are capable of producing the individual mortar, 105mm, and 155mm items. The recent U.S. and Canada competition for the 5-inch MK64 Navy shell, which SAAP won, received proposals from 8 other producers. These included one other GOCO, 5 previous COCO producers, and one new COCO. Competition in this area is expected and, therefore, designation of a particular producer like SAAP would not be in the Government's best interest.

FLEXIBLE MANUFACTURING

Question. Last year, the Congress provided $10 million for production of the M–804 155-millimeter artillery training shell. These funds were provided specifically to demonstrate the application of "flexible manufacturing" of ammunition metal parts, at the Scranton Army Ammunition Plant. Our understanding is that these funds are being withheld from the Army by the Office of the Secretary of Defense. Is this correct?

Answer. Yes.

Question. When released to the Army, do you intend to comply with our direction of last year and use these funds for M804 production at Scranton?

Answer. Yes.

Question. Last year, the Committee specifically directed these funds to be used to demonstrate "flexible manufacturing" of M804 rounds including low volume production of approximately 50,000 rounds, at a rate of 3,000 rounds per month. The Department's "P–1" budget justification indicates that these funds will procure 69,000 rounds. Does this reflect the use of flexible manufacturing techniques, as well as the 3,000 round per month production rate?

Answer. The M804 projectile was budgeted as a fiscal year (FY) 1994 standard priced item. As a result, the 69,000 quantity would not change whether or not the flexible manufacturing techniques were used in production. However, if funds are not provided and obligated into the Conventional Ammunition Working Capital Fund (CAWCF) by July 31, 1994, FY95 standard pricing will apply. That pricing will reduce the quantity from 69,000 for 46,000 due to a substantial change in the CAWCF surcharge.

Question. Provide for the record the proposed schedule and plan for production of these M804 rounds.

Answer.

Item	*Program year (FY)*
M804 Prac:	
93&Prior	[1]52.5
94	46
1995:	
Mar	12
Apr	20

Item	Program year (FY)
May	20
Jun	.5
Jul–Sept	0
1996:	
Oct	6
Nov	20
Dec	20
Jan–Sept	0
1997:	
Oct–Dec	0

[1] Includes 0.5K projectiles being supplied for a foreign military sales case.

[CLERK'S NOTE.—End of questions submitted by Mr. McDade.]

Mr. MURTHA. Mr. Darden?

SIMULATION PROGRAM

Mr. DARDEN. Thank you.

One question, General, about your program. Does this budget figure this morning include simulation programs where you use simulation as opposed to live ammunition?

General HOLMES. This budget does not, but the points you are making are factored into this budget. The reduction in training ammunition requirements that is made possible by increased use of simulation is rolled into the development of this budget.

Mr. DARDEN. Have the simulation programs been generally successful as far as you are concerned and do they actually save money so that your budget does reflect those savings by the utilization of simulation programs?

General HOLMES. It is difficult to say in this budget if that is demonstrable because so many of the simulations are just coming in and have not yet shown the full impact they can make.

But I fully believe that in future budgets, we will be able to show you. Yes, we are able to reduce requirements this much because of the simulation that is being used.

Mr. DARDEN. Who has the supervisory end of the simulation programs?

General HOLMES. The Deputy Chief of Staff for Operations on the Army staff has oversight over the simulation effort.

Mr. DARDEN. Thank you, Mr. Chairman.

Mr. MURTHA. Thank you, General Holmes. There will be additional questions for the record. The Committee will adjourn until 1 o'clock this afternoon.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

CONVENTIONAL AMMUNITION DEMILITARIZATION

Question. The FY95 request included $95.5 million for the demilitarization of conventional ammunition. The Army has initiated demilitarization contracts for categories of small-medium and large caliber ammunition, mines, and pyrotechnics. A recently awarded contract for the demilitarization of medium caliber (20 millimeter) was won by a private company (Olin) while a second place bid was from a Government owned facility (Letterkenny Arsenal). This award raises several questions. What is the Army's plan for insuring that all segments of the U.S. ammunition industry—Contractor Owned and Contractor Operated (COCOs), Government Owned and

Contractor Operated (GOCOs) and Government Owned and Government Operated (GOGOs) will be included in the demilitarization of conventional ammunition?

Answer. The Army will program, schedule and fund demilitarization projects, based on their individual merit and ranking in the Demilitarization Prioritization Model, developed by U.S. Army Armament, Munitions and Chemical Command. Typically, the types of demilitarization being done will drive the determination of which locations or sources will be utilized. For example, if open burning and open detonation is the only feasible option, the work will probably be done at a government installation (GOGO or GOCO). Utilization of COCOs would be done when resource recovery as opposed to destructive demilitarization is appropriate, when additional capacity for demilitarization is needed, or when the ability to demilitarize a specific item does not exist within the government base or is too expensive for the government to demilitarize.

In order to meet execution goals based on current and projected funding, a partnership between the government demilitarization base and private industry is absolutely essential to ensure execution of the conventional ammunition demilitarization program and to decrease our reliance on Open Burning and Open Detonation (OB/OD). This partnership is presently being developed through 5 contract awards and solicitations for approximately $19 million (one award for fiscal year (FY) 1993 and one award and three solicitations for FY94). Contracting solicitations for FY95 are expected to be approximately $30 million–$40 million.

Depending on availability of demilitarization funding, it is expected that conventional ammunition demilitarization annual capacity could be increased to 120,000 short tons (60,000–70,000 short tons for GOCOs and GOGOs and 50,000 to 60,000 short tons for COCOs).

Question. Insurance premiums and any excess liabilities, not insurable, are reimbursed by the U.S. Government for Government-owned and Contractor-operated (GOCOs), while Government-owned and Government-operated (GOGOs) are indemnified for all risks by the U.S. Government. However, in the case of Contractor-owned and Contractor-operated (COCOs), significant costs to obtain insurance are borne 100 percent by COCOs. How will the Army create a "level playing field" in its acquisition process when GOCOs and GOGOs are competing against COCOs in a "commercial preference" demilitarization solicitation?

Answer. Indemnification will not be offered under the current or future demilitarization contracting initiatives. Funding for the demilitarization program in FY95 and FY96 is sufficient to ensure that GOCO and GOGO capability is fully utilized, which, in turn, precludes these locations from competing for contract work. If future GOGO and GOCO capacity exceeds funding availability, either an evaluation factor for indemnification will have to be developed or GOCO/GOGO participation will need to be limited in the demilitarization contracting area.

Question. While the Army's current solution to the demilitarization problem is Open-Burning and Open Detonation (OB/OD), the company that was awarded the medium caliber (20 millimeter) demilitarization contract plans to utilize recycle and reuse technology. Does this selection indicate the Army's intention to move away from OB/OD and concentrate on the more environmentally sound recycling and reuse technology? When this best practical technology is proven, will the Army adopt this environmentally secure solution in lieu of OB/OD at their Government Owned and Government Operated (GOGO) and Government Owned and Contractor Operated (GOCO) facilities?

Answer. The Army's demilitarization solution is not OB or OD. This is only one of the possible range of techniques which are available to address the items in the demilitarization stockpile. In fact, the Army has set aside entire categories of items which have resource recovery potential either demonstrated or projected and is not funding demilitarization programs other than resource recovery for these classes of items. Examples include high explosives loaded projectiles, all propellants, small arms ammunition (including 20 millimeters), bombs, etc. The Army goal is to use OB or OD only in those cases in which there are no other means of demilitarization available or the items are an actual safety hazard.

Question. The Congressional intent of the Armament Retooling and Manufacturing Support [ARMS] Initiative was to create jobs, stimulate the economy and to preserve vital elements of the defense manufacturing base. The Army has made significant progress in providing ARMS funds for their government-owned, government-operated (GOGO) and government-owned, contractor-operated (GOCO) to include competitive "commercial preference demilitarization" solicitations, but nothing has ever been identified for the contractor-owned, contractor-operated (COCO) of the ammunition industry. What are your projections for COCO's and when will ARMS funds be provided to the private sector?

Answer. The ARMS legislation specifically directed the retention of the GOCO ammunition production base. However, the Army recognizes the vital role of the commercial sector in the ammunition defense industrial base. Hence, the Army:

Supports the consolidation of commercial work centers at facilities under the ARMS Initiative; and

Supports a Public Private Task Force recommendation that the Army conduct a study of other available programs such as Defense Conversion to determine the feasibility of enacting a parallel program in support of the COCO sector.

It is recognized that such a program would not be based on the same philosophy as ARMS. It would focus on preserving critical skills, and capabilities for national emergency. Additionally, this COCO ARMS program requires separate authorization and appropriation legislation.

SMALL CALIBER AMMUNITION

Question. The procurement of small caliber ammunition has fluctuated greatly over the past five years with some years reflecting large volumes of ammunition being procured and other years small or no procurements. This is especially true for the Army and Marine Corps (MC) procurement of 5.56 millimeter (mm) and .50-caliber (cal) ammunition:

FISCAL YEARS

[Dollars in millions]

Type		1990	1991	1992	1993	1994	1995
5.56mm	Army	49.2	66.7	70.1	33.8	25.0	73.6
	MC	14.2	34.7	24.8	13.2	1.2	7.1
.50-cal	Army	1.4	9.7	13.0	11.4	31.6	0
	MC	15.3	20.3	38.3	10.3	0.8	1.9

Since ammunition procurement is based upon force structure and annual training requirements, it is difficult to understand the wide variation from year to year of the procurement of this ammunition. Can you explain?

Answer. Procurement of ammunition in the early 1990s was based upon training requirements for a much larger force, a different training tempo, and the replenishment requirements that were projected from Operation Desert Shield/Storm (ODS). More recent years have seen much smaller procurements for various reasons:

The reduction of forces has resulted in a larger stockpile than originally projected.

The change in training tempo caused by the relocation of soldiers, preparation for relocation or inactivation, and natural disasters that have precluded training (hurricanes in the Southeast and floods in the Midwest) has reduced the consumption of training ammunition.

These factors are reflected in the fiscal years (FY) 1993–1994 time frame for 5.56mm ammunition.

By procuring ammunition using economic buys, we buy a larger quantity in one year to replenish the stockpile at a reduced cost rather than procuring uneconomical quantities each year. This economic buy philosophy, as well as procuring to meet stockpile requirements, is reflected in the FY95 funding level for 5.56mm ammunition.

The larger FY94 procurement of .50-caliber reflects the application of our economic buy approach. Requirements are not projected to stabilize until our force reduction has been completed.

Question. In fiscal year (FY) 1993, the Congress directed the Army to procure $5 million of the .50-caliber Saboted Light Army Penetrator (SLAP) ammunition after the Marines procured this ammunition in FY92. Does the Army or the Marines plan to procure additional .50-caliber SLAP ammunition in the future?

Answer. The Army has no plans to procure additional .50-caliber SLAP ammunition until the present stockpile is consumed. The SLAP is a training unique item with a limited training requirement (National Guard only). No projections are available at this time concerning when the next procurement of the SLAP ammunition would be required; however, we are certain the directed procurement will be sufficient to meet our needs for the next six to seven years.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks. Questions submitted by Mr. Dixon and the answers thereto follow:]

105 MILLIMETER TANK AMMUNITION

Question. The Defense Appropriations bill for 1993 appropriated $20 million for 105 millimeter (mm) M490A1 tank ammunition and $20 million for 105mm M724A1 tank ammunition in fiscal year (FY) 1993. In addition, in FY94, we appropriated $5 million for M490A1 ammunition and $5M for M724A1 ammunition. What is the status of the FY93 and FY94 funding for these tank ammunition programs?

Answer. The Army has no requirements to support procurement of additional M490A1 or M724A1. The Army has more assets than are necessary to support its training requirement for these two rounds. As a result, a below threshold reprogramming to higher priority Army needs was conducted on the FY93 appropriations. The two lines are currently at approximately $10 million each. They are candidates for the omnibus reprogramming request. The Army intends to use $5 million to procure cartridge cases in support of a FY90 buy of 75,000 105mm tank training rounds. The FY94 appropriations were not authorized and have been identified as candidates for the omnibus reprogramming.

Question. There is only one available source for large caliber deep drawn cartridge cases which are required for 105mm tank and artillery ammunition and for 76mm and 5 inch Navy gun ammunition. What are the out year requirements for large caliber deep drawn cartridge cases under these programs?

Answer. There are no projected out year requirements for 105mm tank. Out year requirements for 76 millimeter (mm) and 5 inch Navy gun ammunition are listed below:

FISCAL YEARS

[Quantity in thousands]

	1995	1996	1997	1998	1999
5 inch	34	72	101	100	100
76mm	21	22	27	28	20

Question. The Government, at considerable expense, helped to establish the sole available source for large caliber deep drawn cartridge cases at the west coast facility with a capacity to produce 395,000 per month. It is our understanding that the Army is currently analyzing downsizing the current west coast facility capacity commensurate with reduced requirements. What would be the cost of the downsizing effort?

Answer. The Army has completed its analysis concerning the downsizing of the current west coast facility and determined that there is excess capacity for existing requirements. The Army plans to dispose of this excess capacity. The Army does not anticipate any additional cost associated with this disposal.

Question. It is our understanding that 120 millimeter (mm) tank ammunition utilizes stub base cases which could be produced at the large caliber deep drawn cartridge case facility on the west coast. Would production of 120mm stub base cases help maintain this required facility, and more importantly, reduce overall costs to the Government as reflected in large caliber deep drawn cartridge case pricing through more cost-effective production rates?

Answer. 120mm tank ammunition is procured using systems contracts with Olin Ordnance and Alliant TechSystems. Both prime contractors now own their own case base producers through self investment. If the system contractors choose to, they may request another source to bid to them for case base work. Directing them to solicit bids from Norris Industries would result in legitimate claims for lost depreciation and General and Administrative Expenses due to lost workload. Directing case base workload to Norris, or any producer other than the prime-owned facilities, will therefore result in increased 120mm ammunition costs.

[CLERK'S NOTE.—End of questions submitted by Mr. Dixon. Questions submitted by Mr. Lewis and the answers thereto follow:]

XM230 UNICHARGE PROPELLING CHARGE

Question. For the record, answer the following questions pertaining to the XM230 Unicharge propellant system: When is the XM230 system scheduled to be type classified?

Answer. Army Regulation 70–1 directs materiel ". . . will not be type classified unless procurement is planned within the current program objective memorandum period." Since production of the XM230 Unicharge is not part of the current Future Year Defense Program, no type classification is planned. A Milestone III (MS–III) In Process Review (IPR) will be conducted and eligibility for type classification determined. If found suitable, authorization will be provided to the materiel developer/mission assignee to unilaterally type classify in the event procurement is planned at some later date. The MS–III IPR is scheduled for March 1996.

Question. Based on current peacetime consumption of bag propellants, when would the Army have to resume production of artillery propelling charges to sustain desired inventory levels?

Answer. Charge, propelling: M4A2, White Bag—procurement at a minimum sustaining rate will be required in fiscal year (FY) 1996.

Question. Given the potential for increased range, less burnable waste and compatibility with auto-loaders, does the Army have a plan to convert to Unicharge in the future? If yes, provide a brief summary of the plan.

Answer. No. The user has no requirement to convert to Unicharge in the future as long as liquid propellant (LP) remains a viable technology for the Advanced Field Artillery System (AFAS). Unicharge is, however, an attractive alternative for the AFAS program:

Technical risk mitigator;
Its characteristics are compatible with automatic loading; and
Meets longer range requirements for AFAS.

There is no plan for Unicharge in the existing fleet because there is no user requirement to retrofit the existing fleet with either automatic loaders or larger cannons.

Question. What would be the impact of adopting a policy of only buying Unicharge once it is type classified and operate with a mixed inventory of "bag propellant" and Unicharge as the inventory of Unicharge builds up?

Answer. A mixed program would probably consist of continued training use of standard bag propellant and a build-up of Unicharge in war reserve stocks. However, soldiers would need to fire a minimum amount of Unicharge for familiarization each year. In terms of the industrial base, Unicharge technology would workload the same facilities which produce the current caseless tank ammunition and the load, assemble, and pack portion of the artillery propellant base. It may also permit the recycling of certain bag propellants which might otherwise have been proposed for demilitarization. It may also provide an additional product for foreign military sales.

The programmatic impact would be the diversion of funds for Unicharge procurement at the expense of funding other artillery programs.

[CLERK'S NOTE.—End of questions submitted by Mr. Lewis. Questions submitted for the record and the answers thereto follow:]

MUNITIONS INDUSTRIAL BASE

Question. Last year, the Committee directed the Under Secretary of Defense for Acquisition to submit a munitions industrial base plan to the Committee by March 1, 1994. The plan was to identify the most cost-effective options for:

Meeting current production requirements;
Maintaining replenishment capability;
Supporting peacetime training;
Minimizing peacetime operating costs; and
Retaining technical, engineering, and manufacturing expertise necessary for future munition development, production, and support.

The Office of the Secretary of Defense (OSD) Director of Tactical Warfare Programs, Mr. Frank Kendall, informed the Committee that the plan would be submitted by March 15. General Holmes, are you familiar with this plan?

Answer. On February 28, 1994, Mr. Deutch tasked the Director of Tactical Warfare Programs to immediately conduct a comprehensive review of the Conventional Ammunition Industrial Base to ensure that it is able to support the Nation's defense into the future. It is my understanding that OSD will submit the cited report to Congress when this review is completed.

Question. What role did the Army play in the preparation of the plan?

Answer. The Army will play a significant role in the development of the Ammunition Industrial Base review directed by Mr. Deutch. I believe that the Army recently completed Functional Area Assessment for ammunition can be utilized as a baseline for the Army's input for the review.

Question. What are the highlights of the plan? For the record, please have OSD provide summary of the plan.

Answer. I am sure that the plan provided to Congress will address, as a minimum, proposed actions to support annual training requirements, selective modernization of Conventional Ammunition War Reserves, continued support for the demilitarization program, and any other actions which may be necessary to alleviate any problems surfaced as a result of OSD's Industrial Base Review.

Question. The Committee suggested that the plan include recommendations for 1994 reprogramming and 1995 budget amendments to begin plan implementation. What plans do you have in this regard?

Answer. Since the OSD plan has not yet been completed, I am unable to provide highlights.

TRAINING AMMUNITION

Question. How much is included in the budget for training ammunition and how does this compare with expected consumption?

Answer. The fiscal year 1995 budget has a total of $406.3 million in support of training for both training unique and training standard items. Expected consumption for FY95 timeframe, is approximately $1.0 billion.

Question. Your statement says that you will drawdown about $570 million in war reserve ammunition in order to meet training requirements. What impact will this drawdown have on war reserve assets when compared to current war reserve requirements?

Answer. The drawdown will have a minimal impact in the early years because the stocks we're drawing down are the older, less preferred rounds. The war reserve items we're drawing down are mainly in these families: Cartridge 40 millimeter (mm) colored smoke, parachute and cluster rounds; Cartridge 60m Mortar; Cartridge 81mm Mortar; Cartridge 105mm Artillery High Explosive (HE), Illumination and Smoke; Cartridge 4.2 Inch Mortar; Projectile Artillery 155mm Illumination, High Explosive Smoke; Propelling Charges 155mm and 8 Inch; Colored smoke hand grenades; Rocket 66mm and AT–4; signals, demolition charges and flares; fuzes and primers; small arms (5.56mm, 7.62mm, 9mm ball).

The war reserve posture on 5 items will be lower in fiscal year (FY) 1996 based on the drawdown to support training in FY95. Those items are the Cartridge 5.56mm Ball M193, Cartridge 7.62mm 4 Ball/1 Tracer for Minigun, Cartridge 9mm Ball M882, Grenade Hand Smoke Yellow M18, and Grenade Hand Smoke Violet M18.

Question. You also say that the budget provides 90–100 percent of training requirements. What are the shortfalls and why are they not budgeted?

Answer. The shortfalls were on the following items: Cartridge Caliber .45 Match Grade, AT–4 Multi-Purpose Weapon Trainer, Igniter Fuse Blasting Time M60, Smoke Pot Safe Training, Grenade Hand Smoke Training XM83, Cartridge Mortar 60 millimeter (mm) 1/10 Practice M840, Cartridge Mortar 81mm Smoke Red Phosphorus M819, Simulator Target Hit XM25, Simulator Target Kill XM26, Simulator Antitank XM27.

The Caliber .45 was not budgeted because of congressional language and the other items were not budgeted because of ongoing/additional testing requirements.

Question. What additional training ammunition procurement in fiscal year (FY) 1995 would fill these shortfalls?

Answer. The Army is not requesting funds to fill these shortfalls. However, we request the Committee's consideration of the increased funding we have identified to support the findings of the Functional Area Assessment.

Question. How much longer can we continue to draw down war reserve assets for training before the war reserve asset posture becomes a problem?

Answer. The war reserve asset posture will not become a problem for most of the items we are drawing down in support of training because they are the older generation ammunition and the war reserve requirements have been reduced. The area where we could have a problem in the future with war reserves is small arms (5.56 millimeter Ball and Tracer, 7.62 millimeter Ball, 5.56 millimeter for the M16 Rifle, 9 millimeter Ball) beginning in fiscal years (FY) 1996 and 1997.

Question. What, if any, additional war reserve assets should be procured in fiscal year (FY) 1995 to replace those expected to be consumed in training?

Answer. The Army is not recommending a plus-up in FY 1995 to procure additional war reserve stocks to replace those expected to be consumed in training because we will not have a problem with the drawdown until the FY96–FY97 timeframe.

ARMAMENT RETOOLING AND MANUFACTURING SUPPORT (ARMS) INITIATIVE

Question. In fiscal year 1993, Congress appropriated $200 million to fund the Armament Retooling and Manufacturing Support (ARMS) Initiative. The purpose of this program is to provide incentives for the use of government-owned ammunition plants for non-ammunition manufacturing. What is the status of this program?

Answer. The ARMS program is designed to ensure a continued industrial base for the manufacture of ammunition by encouraging the peacetime use of government-owned, contractor-operated (GOCO) ammunition manufacturing facilities for other government and commercial purposes, and to maintain a work force skilled in manufacturing processes that are transferable to the production of ammunition in time of national emergency.

In the Conference Report accompanying the Department of Defense Appropriations Act, 1993, the conferees made available $60,000,000 to begin the program. The conferees agreed to release the remaining $140,000,000 to the Secretary of the Army after August 15, 1993, and after approval of the following actions:

> Establish a public-private task force to make recommendations on the permanent structure and implementation of the ARMS Initiative;
>
> Conduct a comprehensive market survey to include, but not limited to, an assessment of the extent of contractor and subcontractor interest in participating in the ARMS Initiative and the range of incentives which might be necessary to carry out its purposes;
>
> Determine which legal authorities currently available to the Secretary of the Army could be used to support activities under the ARMS Initiative;
>
> Propose legislation for any new activities under the ARMS Initiative not covered by existing authorities;
>
> Devise a comprehensive plan and timetable for the expedited implementation of the ARMS Initiative. The plan should con-

sider new and innovative approaches to fulfilling the purposes of the ARMS Initiative;

Submit a plan for the disposal of excess ammunition production equipment and the use of funds derived from any sales to further the purpose of the ARMS Initiative and reduce the manufacturing and overhead costs associated with government-owned ammunition facilities; and

Provide quarterly reports to the Committees on Appropriations on the progress of the ARMS Initiative, including a full accounting, by project and activity, of all disbursements and planned disbursements of program funds.

The Army has accomplished each of these tasks. Details are provided in the July–September 1993 Quarterly Report that just completed staffing and is enroute to Congress.

The Army is entering into "facility use contracts" as the instrument to implement the ARMS Initiative at each active and inactive ammunition industrial facility. Today, 5 Army ammunition plants are under facility use contracts: Mississippi Army Ammunition Plant (AAP), Indiana AAP, Kansas AAP, Longhorn AAP, and Iowa AAP. These plants, although in different stages of implementation, are making excellent progress in achieving program objectives. Nineteen commercial firms employing over 300 persons are now doing business on Army ammunition plants. Currently, 82 business proposals are under evaluation that may result in the creation of over 600 new jobs.

Question. What are some examples of manufacturing projects which have been started as a result of this program and how specifically did the Armament Retooling and Manufacturing Support (ARMS) Initiative funding help each project?

Answer. Two examples of manufacturing businesses brought in by the ARMS Initiative are at Mississippi Army Ammunition Plant—an electronic assembly process and small machine shop. Initially, our facility contractor used a portion of his ARMS marketing funds (about $293,000) to assist in defining the commercial capabilities of the plant and to locate businesses such as the electronic manufacturer and machine shop needing those capabilities. After negotiations with these firms, the facility contractor used ARMS incentive funds to more government equipment; relocate security and safety offices; and modify equipment at the sites that the sub-contractor needed. Additionally, ARMS incentives funds were used for leasehold improvements, such as re-location of walls, and other improvements specified by each sub-contractor.

Question. Congress directed the Army to establish a public-private task force to determine how best to carry out the ARMS Initiative. What is the status of this task force? What recommendations have been made by this group?

Answer. The Public-Private Task Force was officially established in July 1993. Since its inception, it has held three meetings with the fourth scheduled for April 26–28, 1994. The task force researched and discussed over 35 issues that could potentially increase the effectiveness of the program and reduce roadblocks to success. The most important recommendations are:

Loan Guarantee Program: create a program in concert with the Small Business Administration to allow potential contractors to borrow funds to cover start-up costs;

Waivers and Deviations: recommend changes to the Federal Acquisition Regulations that will allow commercial-type contracting practices. These include: extension of contract length, allowance of civilian use of government equipment on non-government contracts, commercial based rates for equipment use and the authorization of civilian contractors to dispose of excess government equipment for a brokerage fee; and

Government Furnished Property (GFP): this position supports the reuse of government equipment by identifying GFP located within ammunition plants not required to support current Army production or the preparedness mission and making it available for contractor use before proceeding with disposal.

Question. What non-legislative actions has the Army taken to further the purposes of the Armament Retooling and Manufacturing Support (ARMS). Initiative? What additional actions are planned?

Answer. Non-legislative actions either completed, in-process, or planned are:

The Army is working on a Memorandum of Understanding with the Small Business Administration to administer an ARMS loan guarantee program; and deviations from the Federal Acquisition Regulation system are being pursued. These deviations are as follows: Permit firm-fixed-price contracts for periods not-to-exceed 20 years; permit renting of facilities at prevailing commercial rates where use is for non-government activities; permit facility use contractor to sell excess contractor inventory and receive compensation in the form of a negotiated brokerage fee; and permit use of facilities for non-government work in excess of 25 percent.

The Army, in coordination with the ARMS Public-Private Task Force, is developing incentives to attract commercial interest in the Army's ammunition production base. These incentives are consolidation of production equipment, production equipment replacement, modification of production equipment, sale of excess ammunition production equipment, marketing funds, and building alterations.

The Army also plans to explore including Army Ammunition Plants in established Foreign Trade Zones. New incentives, waivers or deviations to existing regulations, or initiation of new legislation will be examined as the need arises. These actions will be determined as the ARMS program continues to develop.

Question. What legislative actions has the Army recommended to further the purposes of the Armament Retooling and Manufacturing Support (ARMS) Initiative?

Answer. The Army proposes two items of legislation that will contribute to the success of the ARMS Initiative. First is the loan guarantee program. The Office of the Army General Counsel opined that federal appropriations may not be obligated or expended to guarantee private business loans in the absence of specific legislative authority. As a result of legal's opinion, the Army has prepared, is presently staffing, and will forward "draft" loan guarantee language to Congress for inclusion in the fiscal year (FY) 1995, National Defense Authorization Act. This will give the Army the authority to develop a loan guarantee program.

The second item of legislation is authorization to use revenue generated from the ARMS program to further the purposes of ARMS. To accomplish this, Congressional authority is needed to establish a fund into which the Army can deposit proceeds from the sale of excess equipment, and other sources of revenue. This item will also be included in the FY95, National Defense Authorization Act.

Question. What funds have been obligated for this program to date and for what purposes?

Answer. The Army received from the Defense Department $33,836,000 to begin the program. for Financial Incentives, $22,394,010 has been committed, and $2,662,200 has been obligated. For Program Administration, $200,400 has been committed, and $200,400 has been obligated.

Question. What is the obligation plan for the remainder of fiscal year (FY) 1994 and for 1995? Provide specific details for the record.

Answer. Our obligation plan for FY94 and FY95 is as follows:

Funding category	Obligation plan	
	Fiscal year 1994	Fiscal year 1995
Financial incentives and environmental baseline surveys	$36,425,830	$117,574,170
Loan guarantees	0	43,000,000
Administrative support	1,680,498	1,319,502
Fiscal year totals	38,106,328	161,893,672

We understand: these funds expire by September 30, 1995, and there is a strong likelihood these funds may not be fully obligated.

We are investigating options to restructure the Armament Retooling and Manufacturing Support (ARMS) Initiative funding beyond FY95—probably through FY97. We will use the FY95 Omnibus reprogramming window to address these issues and possibly identify any offset amounts.

Question. Some people have suggested a loan guarantee program as a way to further the purposes of the Armament Retooling and Manufacturing Support (ARMS) Initiative. What are your views of such a program?

Answer. I believe that a loan guarantee program can substantially further the purposes of the ARMS Initiative. Our analysis of the types of businesses applying to take advantage of the program shows that, without a mechanism to secure start-up capital, e.g. a loan guarantee program, the only businesses that are attracted are service and small manufacturing. These businesses do not take advantage of the capabilities at these plants, do not bring in significant revenue to help lower the Army's cost to maintain the plant, and do not hire workers with the skills needed to produce ammunition in a national emergency. On the other hand, if a loan guarantee program were in place today the percentage of manufacturing jobs would change from 45 percent to 87 percent with an aggregate increase in one thousand manufacturing jobs based on actual submitted proposals.

Question. How would such a program work?

Answer. The most significant aspect of loan guarantees is that they leverage the funds provided by Congress, allowing a near twenty-fold multiplication in economic impact over using funds directly. The $43 million budgeted will create over $2 billion in loan guarantees. Allowing shared risk with the business community, the program encourages lenders to provide capital financing to viable subcontractors for economic development and potential job creation or retention.

The Army intends to use existing governmental expertise to help administer the loan program. Loans will be administered for the Army by the Small Business Administration (SBA), Farmers Home Administration/Rural Development Administration (FmHA/RDA), or both. The proposed legislation will authorize these agencies to enter into an agreement with the Army for this purpose. The Army will rely on these agencies for expertise in establishing the rules and eligibility criteria that each administrator will use to govern execution of the loan program. In turn the risk associated with the loan guarantees is transferred to the administering agency with payment of the subsidy fee.

A subcontractor is eligible for the ARMS Initiative loan guarantee program if the following criteria are met: a signed subcontract with the facility contractor; the project is within the scope of the facility contractor's approved strategic business plan; and credit worthiness as determined by the bank and the loan administrator. Loans are for working capital, equipment and building modification, and lease hold improvements.

To initiate a guaranteed loan, the subcontractor goes to a lender of choice. This lender will evaluate the business proposal for credit worthiness and forward the proposal with appropriate forms to either the SBA or FmHA/RDA for processing based on the loan type and amount. These agencies evaluate the loan request using the agreed criteria. The administrator will expeditiously (seventy-two hours) provide the lender the initial assessment of credit worthiness. When approved, additional administrative processing is required to finalize the application. This procedure establishes the dialogue between the facility contractor, potential subcontractor, and the lender. The Army uses the established disciplines of the banking institution and each loan program administrator to evaluate credit worthiness of clients.

Question. Has legislation to authorize such a program been formally proposed to Congress? If so, please submit it for the record.

Answer. The Army is currently in the process of formally proposing loan legislation to Congress. The language will be forwarded through the Department of Defense and the Office of Management and Budget to become part of the fiscal year 1995 legislative package.

AMMUNITION CARE AND MAINTENANCE

Question. An important aspect of our overall ammunition readiness is the care and maintenance of ammunition, an activity which is funded in the operation and maintenance accounts. These activities include safety and security, receipt and issue, rewarehousing, inventory management, surveillance, maintenance, and so forth.

What did the Functional Area Assessment find with respect to these activities?

Answer. The Functional Area Assessment (FAA) found some elements of the stockpile were not well-funded relative to others. Receipts and issues, along with safety and security, were elements that had a greater priority over the other elements within the constraints of the budget. The FAA found a shortfall in the following elements. In the element of surveillance, over 80 percent of the ammunition lots do not have a current inspection and there is an increasing reliability test backlog. Inventory was being done on category 1 and 2 ammunition (requiring highest security) while category 3 and 4 ammunition (requiring lower security) was done only if funds were available. Maintenance was done on a priority basis. Those items required in the near-future had maintenance performed. Rewarehousing was being done only to free critical storage space to accommodate returns from Europe, Southwest Asia (SWA) and Base Realignment and Closure (BRAC) sites. All safety and security related actions were being done according to established requirements.

Question. Is the fiscal year (FY) 1995 Operations and Maintenance (O&M) budget adequately funded for the care and maintenance of ammunition?

Answer. Yes, provided the ammunition line is not decremented. The requirements levels match the funded level for each of the elements/activities. For example:

[In millions]

Elements/activities:	*Requested/funded*
Receipt/Issues/Second Destination Transportation	85.8/85.8
Rewarehousing	10.5/10.5
Inventory	23.5/23.5
Surveillance	24.4/24.4
Maintenance	13.1/13.1

Question. What O&M funding levels are required for ammunition care and maintenance in FY96 and beyond and what is included in your current budget for this purpose?

Answer. The O&M requirements funding level for the stockpile support elements/activities is $1,149M for FY96–FY99. It is anticipated that the funding levels for FY96 and beyond, as recommended by the FAA, will be incorporated into the budget being formulated.

Question. What is being done to correct these shortfalls?

Answer. We have completed an FAA. We have addressed the bottom line stockpile requirements to sustain the Army in its mission. The recommendations of the FAA, incorporated into the budget, provide for stable and adequate funding. Adequate funding will remove the shortfall that the FAA addressed.

CONVENTIONAL AMMUNITION WORKING CAPITAL FUND (CAWCF)

Question. The Conventional Ammunition Working Capital Fund (CAWCF) was established to improve and simplify the ammunition procurement process, reduce paperwork, and reduce ammunition costs. CAWCF is a revolving fund administered by the Army as the Single Manager for Conventional Ammunition. Last year, the Committee report criticized the operation of the CAWCF and directed the Army to submit by March 15, 1994, a plan for the orderly closeout of the Fund. The Army was also given the opportunity to make suggestions for improving the Fund. What is the status of the report and what are its recommendations?,

Answer. A response to the Committee report has been prepared. It has been staffed with the Services, throughout Department of the Army and Office of the Secretary of Defense. The final response will be released to Congress in May 1994. The report concludes that the benefits of the CAWCF process far exceed the concerns outlined in the House Appropriations Committee report. Therefore, all Services are in favor of retaining the fund and are committed to correcting deficiencies and implementing process improvements.

Question. The Committee also requested the Surveys and Investigations Staff to make an independent evaluation of the CAWCF. The Committee has received a preliminary report from the Staff which has the following preliminary findings:

a. The Fund lacks an operational cost accounting system.

b. The Fund system is incapable of providing an accurate financial status of the Fund.

c. The gain/loss surcharge computed annually for the Fund is at best a gross estimate.

d. Price estimating and cost tracking systems are largely manual and, lacking a cost data base, are susceptible to error.

e. Support cost estimates are computed in bulk using tenuous casual relationships.

f. Hypothesis underlying standard price policy has changed.

g. Fund inventories contain more than components purchased to produce complete rounds of ammunition and completed rounds awaiting tests.

h. Fund used for Army benefit.

i. Incremental improvements short of complete system overhaul are limited.

The Staff has prepared some questions on this subject. Please answer them for the record.

Answer. Answers to specific questions follow:

Question. The Conventional Ammunition Working Capital Fund (CAWCF) is a revolving fund chartered in October 1981 to procure conventional ammunition from contractors as complete usable munitions or as components later loaded, assembled and packed into complete end items at Government or contractor operated facilities. After lot testing, the finished ammunition items are then accepted and owned by the individual services or other ordering customers. The purposes of the fund are to simplify the procurement process and to gain economies of scale through combined buys of the same or similar complete rounds or components applicable to conventional ammunition. Procurement of complete rounds (systems) versus procurement of components later loaded, assembled and packed at Government owned facilities has increased as ammunition becomes more sophisticated. What are the advantages of funding "systems" procurement through CAWCF?

Answer. All conventional ammunition rounds procured by the Single Manager for Conventional Ammunition use the CAWCF as the financial mechanism to include planning, funding, execution, etc. The advantages of using the CAWCF include stability of pricing and quantities, consolidation of Procurement Work Directives if more than one customer, and high visibility of execution through the financial tracking, monitoring, and reporting channels.

Currently, the CAWCF has three programs that are being procured as system buys: the 120 Millimeter Tank, the Combined Effects Munition, and the Hydra 70 programs. True system buys reflect hardware costs that include 100 percent of the cost required to produce the item (i.e., components, engineering, testing, overhead, etc.) The system buys within CAWCF are not full systems contracts. The contractor buys the components and produces a full-up round. The Government maintains configuration management and has the responsibility for engineering change proposals, studies, testing, requests for waivers and deviations, monitoring value engineering change proposals, and engineering in support of production.

Question. Are analyses performed to support the procurement i.e., (systems or components) approach used? Are they documented?

Answer. The Material Acquisition Review Board develops, implements, and monitors acquisition planning/acquisition strategies for the major programs. The acquisition strategy includes the analysis of the procurement of an item through systems procurement versus component breakout procurement. This Board includes all elements of the Army Armament, Munitions and Chemical Command (AMCCOM), Program/Project Managers, other subordinate commands, higher headquarters, and other Services, as applicable.

The Acquisition Strategies Division within AMCCOM is responsible for the formulation/implementation of policy and actions pertaining to acquisition; and the submission of major program acquisition plans and Justification and Approval documentation. They are also responsible for the implementation of the conventional ammunition acquisition strategies and plans.

Question. Criteria for Conventional Ammunition Working Capital Fund (CAWCF) items are inconsistent. For example, Air Force and Navy procure service unique and Low Rate Initial Production items outside CAWCF. Army procures all ammunition hardware including Low Rate Initial Production Items through CAWCF. Why are criteria for CAWCF procured items different among the Services?

Answer: The criteria for CAWCF produced items is not different among the Services. Chapter 2 of Department of Defense (DOD) 5160.65M outlines the criteria for transitioning items through the CAWCF.

The CAWCF was established in October 1981 to improve and simplify the ammunition procurement process, stabilize prices, and gain economies of scale for ammunition buys from Defense and other customers. In accordance with Chapter 6 of DOD 5160.65M in 1984, the Army directed that all initial production items/non-transitioned items be incorporated into the CAWCF and procured as CAWCF non-standard priced programs, i.e., procured through the CAWCF at actual cost. By regulation, all Services were provided an opportunity to transition and procure all ammunition programs through the CAWCF as standard or non-standard priced programs. In order to retain configuration management over the

Service unique items, the Services chose not to procure their programs through the CAWCF as non-standard priced items.

Chapter 2 of DOD 5160.65M states, "The individual Services are responsible for research and development; test and evaluation; life cycle configuration control and quality standards; and inventory management of the items they develop." The chapter also states the Single Manager for Conventional Ammunition will procure Low Rate Initial Production (LRIP) items at the request of the developing Service as well.

Interim guidance approved by the Office of the Secretary of Defense and distributed to the Service in fiscal year (FY) 1986 stated, "CAWCF Department of Defense orders will be fixed standard price." The guidance was issued to stabilize prices in the CAWCF. Numerous opportunities and regulatory guidance existed whereby the Services could operate with the same set of ground rules.

Question. Why does Army fund Low Rate Initial Production (LRIP) items through CAWCF unlike the other Services?

Answer. Beginning in FY95, all Army non-transitioned programs will be executed outside the CAWCF. The Army is now consistent with the other Services in the execution of initial production programs. The rationale for executing Army LRIP items inside the CAWCF was provided above.

Question. A cursory review of inventory records at an ammunition plant showed finished goods inventory, in some instances inactive for more than a year, or mobilization reserves, carried in Conventional Ammunition Working Capital Fund (CAWCF) inventory. CAWCF's purposes is to facilitate ammunition procurement not to hold either funded goods or mobilization reserves. CAWCF spends approximately $45 million to $50 million annually for care and maintenance of parts and finished goods held in inventory. Why are 8 inch rounds (now obsolete) produced in the 1980s and valued at $8 million still carried in CAWCF inventory?

Answer. These projectiles will remain in the Army inventory until the 8 inch howitzer is phased out of the reserve components inventory in fiscal year (FY) 1998. The 8 inch rounds currently in the CAWCF inventory were procured prior to 1991. Currently in the CAWCF inventory are a total of 7,590 projectiles from about eight lots. While in production, this program experienced numerous problems to include:

a. Bad threads and closure spacing on the warhead.

b. Early ignition of the propellant grains.

c. Pyrotechnic delay malfunction.

d. Rocket nozzle disintegration for which the government has a claim against the contractor for two lots totalling 2,442 rounds. These rounds will remain in the CAWCF inventory until the claim is settled.

e. Crack in the retaining band.

f. Cancellation of a Foreign Military Sales (FMS) buy of 804 full up rounds.

Some of the rounds and components in the inventory are serviceable. The Army is actively pursuing other uses for the 8 inch projectiles, i.e., sell or give the serviceable projectiles to the Department of Defense (DOD), non-DOD or FMS customers; use the rounds for warmers or spotters during testing at proving grounds or for lot acceptance testing for fuzes; reutilization of components and lastly disposal. The Army will issue disposition instructions fo disposal of 1,650 rounds.

Question. Why are $59 million of M829 120 millimeter (mm) tan rounds in this inventory?

Answer. There are no M829 120MM tank rounds or component in the CAWCF inventory. The M829 series tank cartridges are procured utilizing a systems contractor who has the responsibility o acquiring, managing, and assembling the components and final delivery to the government upon acceptance. Thus, components ar never maintained in the inventory because they are owned by th system contractor.

Question. Why is approximately $100 million of Composition B an explosive, retained for mobilization in the Conventional Ammunition Working Capital Fund (CAWCF) inventory?

Awswer. When the CAWCF was formed, Composition B, alon with other assets from all Services were capitalized into th CAWCF. Approximately 70 million pounds of Composition B wer retained in the inventory after Vietnam. The Army determine that 70 million pounds should be maintained in the inventory fo mobilization.

Based on a recommendation from the Army Audit Agency, th Army cancelled the fiscal year (FY) 1993 production of Compositio B. All requirements for Composition B are being furnished from th stockpile. The plan is to draw down the inventory to 62 millio pounds. Further, we will direct a study of all explosives based o the results of a Functional Area Assessment.

Question. A gain/loss position for Conventional Ammunitio Working Capital Fund (CAWCF) is calculated for the end of eac fiscal year. One official has stated any estimate of ultimate fun gain or loss would range plus or minus $100 million. CAWCF ha no income and expense statement. How does one establish a fun gain or loss without an income and expense statement?

Answer. The Commodity Command Standard System (CCSS) i meeting all statutory requirements for appropriation accountin and generating all status reports prescribed by the Office of th Secretary of Defense (OSD). This includes the Records Contro Symbol Army Materiel Command Resource Management 130 report which provides income and expense data as well as asset an liability information. As currently designed, this report does no calculate a net operating result for the fund. A detailed analysis o the existing CAWCF ledger accounts is being done to determin whether a net operating result can be derived from the system a it exists, or identify necessary changes to obtain this informatio in the future.

Question. What is the basis for the current estimate of the fun gain or loss?

Answer. Each standard priced program received in the CAWC is reviewed to determine whether the projected cost-to-complet will put that program in a "gain" (excess funds to the program) o "loss" (shortfall of funds to the program) position. This informatio is rolled together by fiscal year to determine the position of th CAWCF for each fiscal year and in total for the current progran received. Projections are then made based on support cost gains o losses due to under or overstated projections, OSD guidance adjustments, and any other outstanding issues that will affect the position of the CAWCF. Based upon all this intensive analysis, Army Armament, Munitions and Chemical Command recommends a negative or positive surcharge to OSD in order to bring the CAWCF to a zero operating position.

Question. Why doesn't the fund have an income and expense statement?

Answer. The CCSS was designed for Army Wholesale Stock Fund accounting and was modified for the CAWCF. In the absence of an official income and expense statement, AMCCOM prepared a methodology to manually compute a CAWCF gain/loss position for the fund.

Question. The March 26, 1993, version of the Conventional Ammunition Working Capital Fund (CAWCF) Charter assigns roles and responsibilities to the Army hierarchy, the Executive Director for Conventional Ammunition (EDCA) and CAWCF Management Council (CMC). Nevertheless, some believe there is little management of CAWCF above Rock Island. Who above the Single Manager for Conventional Ammunition (SMCA) has primary responsibility for CAWCF policy?

Answer. Department of Defense (DOD) 5160.65M designates the Secretary of the Army as the SMCA. He has delegated management to the Army Materiel Command (AMC), with the Army Armament, Munitions and Chemical Command as the field operating agency. Day-to-day CAWCF procedures are developed at the working level at the field operating activity. More general policy is directed through the Deputy Chief of Staff for Ammunition (AMC), and Assistant Secretary of the Army for Financial Management. Above the Army, the DOD Comptroller directs the financial policy for the CAWCF. All federal and DOD acquisition regulations apply to CAWCF procurements. The Joint Ordnance Commanders Group has responsibility for establishing uniform and standard conventional ammunition policies and procedures for the implementation of the SMCA mission, including the CAWCF. The joint service CAWCF Management Council (CMC), established in 1998, is chaired by the Executive Director for Conventional Ammunition (EDCA). It resolves joint service policy and execution issues. Policies developed by this group are incorporated into the governing documents such as DOD 5160.65M and the CAWCF Charter.

Question. What is EDCA's role in CAWCF management?

Answer. EDCA was established under DOD 5160.65M to serve as a dedicated SMCA management organization, staffed jointly by the military services and located in the national capital region. It acts as executive secretary for the CMC which provides joint service oversight of the CAWCF. The group reviews and resolves pricing and policy issues at the joint service level. EDCA monitors CAWCF performance and brings issues to the attention of the CMC members, as appropriate.

Question. Should EDCA manage and approve CAWCF policy?

Answer. No, the role of EDCA in CAWCF management was discussed in the previous answer. Since the CAWCF is the financial entity for the SMCA, and the Army holds the title of SMCA, management of the CAWCF should reside within the Army.

Question. In 1981 when the Conventional Ammunition Working Capital Fund (CAWCF) was initiated, existing data processing systems were used to the maximum extent possible. The Commodity Command Standard System (CCSS) is used to track inventory and the Cost Control System for Conventional Ammunition (CCSCA) to track costs at the customer order level. Data in the systems cannot be reconciled. What needs to be done to the cost tracking system and the financial system to enable reconciliation of data?

Answer. At the present time, a functional team and a systems team have been formed at Army Armament, Munitions and Chemical Command to design a cost control system that will interface with the CCSS and provide valuable real-time data for management of the CAWCF. The Ammunition Management System is envisioned as a real time data base that will provide data such as: historical data, pricing and budget data, execution and delivery data, stock availability, component breakout structure, reconciliation with current financial systems, and fund flow automation. The present milestone for implementation of this system is October 1, 1995 if resources and manpower are available to complete this project.

Another team is currently performing a detailed analysis of the existing CAWCF ledger accounts in the CCSS trial balance. The data will be cross-walked to a Profit and Loss Statement to determine if the current system can be used to calculate the gain/loss position for the CAWCF.

Question. In the 1990 to 1992 period pricing policy changed without benefit of formal Conventional Ammunition Working Capital Fund (CAWCF) charter changes. One of the most significant changes was an OSD policy memorandum dated February 18, 1992, which stated "there will be no price changes once the price is set during the OSD budget submission unless the viability of the CAWCF is threatened." This effectively stopped all standard price changes. The result was a change in the philosophy from one of developing standard prices as accurate as possible to one that assumes price changes are unnecessary as an approximate equilibrium would be reached between all price increases and decreases. Any correction necessary would be accomplished via the gain/loss surcharge the following year. The latest policy established a $5 million or 20 percent variance of total order value before a review of standard price is initiated. Should standard price stability be a primary objective of CAWCF policy?

Answer. Standard price stability is one of the most important features of the CAWCF. In an environment of intense competition for Defense budget funds, it is crucial that each dollar be used to the maximum effect in procuring the conventional ammunition requirements of the Military Services. Efficient procurement is one of the main objectives of centralized management under the Single Manager for Conventional Ammunition. Instability of either dollars or quantities adversely affects efficient procurements.

The fixed standard price concept provides the procurement agency and the Military Services with the maximum flexibility in their programs. Procurement can solicit bids for a quantity they can be reasonably assured won't fluctuate. The Services can base their future planning and requirements on receiving a quantity they can be reasonably assured won't fluctuate. Frequent and untimely price adjustments greatly increase uncertainties in the Planning, Programming, Budgeting, Execution System process and invite the kind of errors and inconsistencies that result in budget cuts.

Question. What is the basis for the current threshold of $5 million or 20 percent order variance before a review of standard price is initiated? Was an analysis performed?

Answer. Office of the Secretary of Defense (OSD) guidance established a fixed standard price policy for the CAWCF. OSD also instituted a relief mechanism to adjust fixed standard prices, but no specific threshold was applied. Requests were supposed to be limited to true exceptions with impact commensurate with the size of the program value.

The Services felt specific thresholds would be helpful to ensure consistent applications of price change requests for all customers. Previous thresholds were considered to be too low and resulted in too many requests being generated. An analysis was performed during 1990 leading to the recommendation that the threshold be established at 20 percent or $5 million. This was approved by the CAWCF Management Council and documented in the Fixed Standard Price Procedures for the CAWCF signed by all Services and distributed in June 1993.

Question. The Conventional Ammunition Working Capital Fund (CAWCF) has been operating with the same basic data processing system for 12 years. Using the system logistic and financial data requires significant manual effort. The system provides little or no financial management information and does not provide financial gain or loss information. Why has the CAWCF data processing system, inadequate to the task, continued without major modification/upgrade for 12 years?

Answer. When the fund was established, it was directed to use the existing data processing system, tailoring it to the unique needs of the CAWCF. Changes to the system have been suggested and implemented when problem areas have been identified. Requests for resource allocation to fix major problems have not been approved. In 1984, the Defense Standard Ammunition Computer System was proposed as the integrated financial system for the CAWCF. It was never completed or fully implemented.

Question. What would it take to upgrade/replace the current system with a full-up financial and logistical management system, including an operational cost accounting system?

Answer. Under the current Department of Defense Corporate Information Management philosophy, the development of a new CAWCF system would require the identification of the Army Single Manager for Conventional Ammunition functional and systems requirements to both the Joint Logistics Systems Center and the Defense Financial Accounting Service for incorporation into the Ammunition Logistics Management and Financial Management Migratory System. This also requires the development of a Mission Elements Needs Statement, a Functional Description, and a Functional Economic Analysis.

Once approved, it would then require funding from both activities and a determination as to whether this system would be developed by a Service central design activity or be contractor developed.

Accurate cost/implementation time estimates are not possible until development of the life cycle documentation mentioned above.

DEMILITARIZATION OF AMMUNITION

Question. The budget includes $95,469,000 for the demilitarization of conventional ammunition, an increase of over $25 million from the current funding level. Your statement says that the demilitarization backlog will grow to 436 thousand short tons by the end of fiscal year (FY) 1994. What is considered to be an acceptable, sustainable backlog?

Answer. We believe that a demilitarization stockpile of 100,000 short tons would be acceptable and manageable. This is based on an assumption that future generations to the demilitarization stockpile will be 25,000 to 35,000 short tons each year.

Question. Given your current and future years budget, when will this level be achieved?

Answer. Given current funding levels, a 100,000 short tons stockpile will not be achieved during the five year defense plan.

Question. In the FY95 procurement and Research and Development (R&D) budget for demilitarization considered to be "fully funded"? If not, please identify the shortfalls.

Answer. The FY95 procurement budget (demilitarization) request of $95.469 million is considered to be fully funded.

The FY95 R&D budget (demilitarization) request of $761,000 is not considered fully funded. The FY 95 R&D budget for demilitarization is underfunded by $5.640 million. A breakout of the unfunded projects are—

(1) Complete fabrication and initiate testing/operational verification of production model supercritical water oxidation system. Funded—$761,000. Unfunded—$102,000.

(2) Complete the evaluation and implement the prototype supercritical water oxidation system into production for the removal and recovery of pressable explosives. Funded—$0. Unfunded—$147,000.

(3) Continue the development of cryofracture demilitarization technology for explosive loaded sub-munitions, grenades and mines. Funded—$0. Unfunded—$650,000.

(4) Complete the fabrication of a pilot recycling processing system for energetic materials recovered from the demilitarization of cast-loaded munitions. Funded—$0. Unfunded—$583,000.

(5) Complete the design of an advanced prototype energetic materials removal system for high explosives filled munitions. Funded—$0. Unfunded—$489,000.

(6) Initiate development of a pilot line for single base propellant recovery technology. Funded—$0. Unfunded—$475,000.

(7) Develop specification for implementation of the plasma arc technology for the demilitarization of pyrotechnic ordnance and destruction of hazardous materials. Funded—$0. Unfunded—$317,000.

(8) Initiate development of an exhaust stack monitor system for continuous real time emissions detection based on laser spark emission concept and application of inductively coupled plasma with Fourier Transfer Infrared Spectroscopy. Funded—$0. Unfunded—$854,000.

(9) Initiate development of prototype chemical extraction system for the recovery and reuse of color smoke and dyes. Funded—$0. Funded—$483,000.

(10) Initiate development of a prototype on-line monitoring system to determine propellants stability for recycle and reuse in production munitions. Funded—$0. Unfunded—$387,000.

(11) Initiate development of a prototype system for the recovery of smoke pot oils for recycle and reuse as a boiler or incinerator fuel. Funded—$0. Unfunded—$453,000.

(12) Initiate development of a prototype molten salt oxidation system for the destruction of energetic materials and treatment of inceration off-gases. Funded—$0. Unfunded—$700,000.

Question. Most of the demilitarization backlog is stored at government-owned ammunition plants and most of the demilitarization work has been done by contractor or government operators at these plants. Your statement says that you are now contracting with private industry for demilitarization work. Under what circumstances do you use such a strategy?

Answer. Contracting with private industry is being done under the following circumstances:

(1) When resource recovery as opposed to destructive means of demilitarization can be emphasized.

(2) When additional capacity for demilitarization is needed to support the increased funding projections for the conventional ammunition demilitarization program.

(3) When capability to demilitarize a specific item or group of items does not exist within the government base or when the available government technology is inordinately expensive, is concentrated on destruction rather than resource recovery, or does not meet the volume requirements to address the stockpile.

Question. Provide some examples of contracts of this type which are already underway.

Answer. Two resource recovery contracts have been awarded for demilitarization of conventional ammunition through March 1994. The first contract is for the demilitarization of 3,777 short tons of small arms ammunition (5.56 millimeters through .50 caliber) at a cost of $5.5 million (FY93). The second is for 5,500 short tons of 20 millimeters ammunition at a cost of $3.4 million (FY94). These contracts were awarded to TALON Manufacturing and Olin Corporation respectively. Three additional resource recovery contract solicitations are ongoing for demilitarization of high explosive loaded projectiles and fixed rounds, smoke and dye loaded ammunition, and pyrotechnics. These contracts are expected to be awarded by June 1994.

Question. What is the dollar volume of private industry contracting in FY 94 and FY 95?

Answer. One contract totaling $3.4 million has been awarded so far in FY 94. This contract has a 100 percent option that can be exercised upon completion of the basic contract. The total cost of the three additional contracts now being solicited will be approximately $10 million. For FY 95, assuming a demilitarization budget of $96 million contracts in the range of $30 million to $40 million are expected to be awarded.

Question. What are the demilitarization unit costs for fiscal years (FY) 1992, 1993, 1994, and what is the estimate for 1995? Explain any variances.

Answer. Cost for demilitarization of ammunition by fiscal year area as follow:

Fiscal year:	*Unit cost*
1992	$815
1993	1,272
1994	1,111
1995	1,793

The cost per short ton began to increase in FY93 due to application of funding to projects that do not produce short tons (i.e., movement of demilitarization assets from Base Realignment and Closure Act (BRAC) locations, funding to facilitate Iowa and Hawthorne Army Ammunition Plants, and the efforts to characterize the potential environmental impacts of the demilitarization process). In FY94, cost per short ton was slightly reduced by efforts to contract demilitarization. In FY95, the unit cost is expected to rise due to greater reliance on resource Recovery, Reclamation and Reuse (R3) and the likelihood of more difficult items being demilitarized.

Question. What has been the impact of the large inventory of demilitarization backlog and the ammunition returned from Europe on CONUS ammunition storage facilities? Is there a short term shortage of such facilities?

Answer. Available storage space for the wholesale ammunition stockpile has been stressed by the BRAC Act, the return of ammunition from Europe and the lack of funds to perform rewarehousing functions to better utilize available storage space. Currently 80 percent of available storage capacity is being utilized, with 16 percent being taken up by the demilitarization inventory. The present demilitarization stockpile occupies over 3,700,000 square feet of storage space (average of 9 square feet per ton of ammunition) which would be better utilized for storage of serviceable ammunition.

A shortage of ammunition storage facilities will continue until extensive redistribution and rewarehousing can be accomplished and the ammunition demilitarization program can process the obsolete, unneeded or unsafe ammunition stockpile.

Question. What is the estimated demilitarization backlog at the end of fiscal year (FY) 1995 and 1996?

Answer. The expected backlog for FY95 could range between 380,000 to 400,000 short tons. For FY96, the expected backlog could range between 340,000 to 360,000 short tons.

CLOSURE AND LAYAWAY FACILITIES

Question. The budget for layaway of ammunition facilities goes from $48.0 million in fiscal year (FY)1994 to $26.8 million in FY1995. What accounts for this reduction?

Answer. The reduction from $48.0 million to $26.8 million reflects an overall reduction to the production base program and a change in funding priorities within the Activity.

Question. Is the FY1995 layaway budget considered to be "fully funded"? If not, what is the deficiency, and what would additional funding provide?

Answer. The layaway program is not fully funded. A shortfall of approximately $60 million exists. The additional funds are required for asbestos removal at various plants ($43.1 million) and disposal/decontamination equipment efforts ($16.3 million).

Question. Last year, the Committee directed the Army not to dispose of contractor-owned equipment at the baseburner assembly facility at the Joliet Army Ammunition Plant (AAP), pending a review of the ammunition industrial base by the Department of Defense. What is the status of these facilities, and what are your long range plans for them? If disposal is planned, tell us why.

Answer. In accordance with conference language, the Army has retained the Talley Defense Systems (TDS) contractor-owned Baseburner Assembly equipment and conducted another review of the production base to determine the need for retention of this capacity. This review substantiated that the Baseburner capability at Joliet AAP is excess to the government's needs. The Army has officially identified the government-owned baseburner equipment as being excess. TDS has indicated that they will transfer selected pieces of baseburner equipment from Joliet AAP to the TDS-Mesa facility. The equipment, not transferred, will be disposed of. The current capability at TDS-Mesa and Longhorn Army Ammunition Plant is sufficient to accomplish the Army's replenishment requirements.

Question. What is the Army doing to dispose of ammunition production facilities which are no longer needed? What is the magnitude of this effort in FY1992, FY1993, and FY1994, and what level is expected in 1995?

Answer. Facilities no longer required are screened to determine if equipment can be used elsewhere in the government base, or are disposed of at public sale, scrap sale, or abandoned. Disposal dollars in FY1992 were $6.1 million, FY1993, $24.9 million, FY1994, $35.0 million, and FY1995, $19.5 million. This has resulted in all or part of 33 production lines being excess, with over 7,500 pieces of equipment disposed of. An additional 43 lines at government facilities have been placed in modified condition.

Question. What budget changes, if any, would you recommend in the budget for disposal of ammunition facilities for fiscal year 1995?

Answer. An increase of $16.3 million to the layaway of industrial facilities line for disposal of equipment at various plants and $43.1 million for asbestos removal.

WAR RESERVE STOCKPILE MODERNIZATION

Question. The Functional Area Analysis identified 18 rounds that should be procured to modernize the war reserve stockpile. How many of these items are funded in your fiscal year (FY) 1995 budget?

Answer. The FY95 budget supports procurement in 7 of the 18 items.

Question. What plans does the Army have to fund these items in future budgets?

Answer. The Army intends to procure as many of the 18 modern war reserve items as available resources permit. We will prioritize these modern munitions and procure as many of them as possible.

Question. To what extent will procuring these items eliminate or ease concerns about the ammunition industrial base?

Answer. To a great degree, these modern munitions would resolve concerns about the ammunition industrial base, if all of them were to be procured. However, the Army intends to procure as many of the 18 modern war reserve rounds as available resources permit. We will prioritize these modern munitions and procure as many of them as possible. Due to a lack of resources, some of them may not be procured in the foreseeable future which would leave gaps in the responsiveness of the ammunition industrial base.

Question. What additional war reserve ammunition procurement would you recommend funding in FY95 in order to start addressing the shortfall sooner? Provide specific items, quantities, and dollars.

Answer.

Item	Dollars in Millions	Quantity (Thousands)
M855, 5.56 millimeter ball	$10.5	28533
M919, 25 millimeter APFSDS	25.0	174
M830A1, 120 millimeter Tank High Explosive Anti-Tank Multi-Purpose	26.0	8
M913, 105 millimeter Artillery High Explosive Rocket Assist	25.0	44
VOLCANO	16.0	7

120 MILLIMETER TANK AMMUNITION

Question. Thirty-seven percent of the ammunition procurement budget goes for tank ammunition, the largest single category of ammunition procurement. Four rounds of 120 millimeter tank ammunition are funded in fiscal year (FY) 1995, two service rounds and two training rounds. What procurement strategy is proposed for the FY95 and out-year procurements?

Answer. The M865 and M831A1 training rounds will be procured using a four-year multi-year procurement. The quantity to be procured will be split 60/40 between the two qualified producers with the 60 percent award being made competitively. The M829A2 will be a sole source four-year multi-year procurement with Olin Ordnance. The M830A1 1995 quantity is an option to the 1994 sole source contract with Alliant TechSystems. There are no future plans to procure the M830A1.

Question. The current generation of high explosive and kinetic energy service ammunition is far more expensive than the rounds they replaced. What is the Army (plan) to reduce the cost of these rounds?

Answer. The multi-year procurement strategy for the M829A2 is inherently a cost reduction effort. Additionally, the M829A2 program has embarked on an aggressive cost reduction program targeting the highest cost component, the sabot. Cost reduction proposals involving material specifications, configuration tolerances and process improvements have been reviewed and are being tested. As this technology matures, significant cost reduction is expected. The cost reduction opportunities for the M830A1 cartridge are limited due to the near-term completion of production in 1995. However, several Value Engineering proposals are being investigated which offer cost reduction potential.

Question. For the record, compare the actual contract unit cost (or assumed contract unit cost where necessary) for each round for each fiscal year (FY) 1993 to 1995 and explain any discrepancies?

Answer.

		M865	M831	M831A1	M830A1	M829A2
93	Olin	$508.87	$678.79	$844.55		$5,598.00
	Alliant	691.68	952.26	1,134.49	$3,230.00	
94	Olin	565.00		602.00		4,030.73
	Alliant	507.28		532.14	3,190.12	
95	Olin	524.01		564.97		3,207.91
	Alliant	524.01		564.97	3,150.00	

The high cost of the M831A1 in 1993 is based on the limited quantity. Only a total of 9,000 rounds were procured as planned to support material release. The costs vary between the training rounds based on which contractor wins the large share as they are split 60 percent and 40 percent. 1993 and 1994 are actuals for the training rounds and 1995 is assumed contract unit costs. The weighted average unit costs for the training rounds closely track with the planning figures (M831A1: 93/$941.20, 94/$560.14, 93/$582.84, 94/$530.36). The 1993 M829A2 actual cost reflected greater than anticipated one-time charges for expendable tooling which artificially inflate the contract cost. The 1994 and 1995 assumed contract prices for the service rounds reflect the advantages of cost-reduction efforts and procurement strategy.

Question. Fiscal year (FY) 1995 is proposed as the final year for procurement of the M830A1 high explosive round. Last year you projected procuring about 12,000 per year for the foreseeable future. Why has this changed?

Answer. Affordability. Based on other higher priorities and limited resources, the Army cannot afford to continue to procure this highly capable high explosive round.

Question. Has the Army had second thoughts about the need for multi-purpose high explosive round such as the M830A1?

Answer. No. There is a need for a multi-purpose cartridge in the inventory. Based upon limited resources and competing priorities, the Army cannot afford to continue to procure this highly capable high explosive round, even though the war reserve quantity has not been satisfied.

Question. How will the inventory of M830A1's at the end of the fiscal year 1995 funded delivery period compare with your current calculation of the war reserve requirement for this round?

Answer. At the end of the fiscal year 1995 funded delivery period, the inventory will be approximately ——— of war reserve requirement.

Question. What is your plan for the production facilities for this round once production is complete? How much will it cost to carry out this plan and how much is funded in your budget?

Answer. The M830A1 is on a sole source system contract with Alliant Techsystems. The system contractor will have either the 40 percent or 60 percent share of the training multi-year procurement. Propellant, cartridge cases, metal parts and Load Assemble and Pack (LAP) are maintained through other tank cartridge procurement. The fuze, proximity sensor, liner, and explosive are not addressed by other procurement. However, these items are not the sole production items at their respective manufacturing facilities. Equipment will be modified and utilized in the manufacture of similar products. Undue financial hardship to the vendors as a result of production completion is not anticipated. It is estimated that plant clearance costs will be less than $100,000 which is available within the requested budget line.

AT–4 UPGRADE PROGRAM

Question. Last year, Congress appropriated $15,000,000 to begin a program to upgrade the AT–4 shoulder fired anti-armor system. The committee identified four specific improvements and directed the department to budget sufficient funds in fiscal years (FY) 1995, 1996, and 1997 to retrofit all weapons in the inventory. The 1995 budget contains no funding to continue this program. Why?

Answer. The Army's requirement for the subject upgrade was approved on April 1, 1994; prior to that there was no requirement.

Question. What is the status of the obligation plan for the 1994 funding?

Answer. This item was appropriated, but not authorized. When the upgrade is approved and the funds are released for execution, an obligation plan for the 1994 funding will be put in place.

Question. The justifications state that "Combat experience in Operation Just Cause and Desert Storm revealed the need for these improvements." If these improvements are needed, why has the Army refused to fund them?

Answer. Army ammunition procurement funds are extremely limited. There are ammunition items with approved requirements and higher priorities which would be funded before this item.

Question. What would be a reasonable funding level for this program in FY 95? What would it procure?

Answer. In view of the very limited ammunition funding and the priority of this upgrade compared to other items, there are no plans to fund this upgrade in FY 95. It is projected that the FY 94 appropriation, if executed, will allow for modification of approximately 100,000 weapons. Since the Army plans to produce the Multi-purpose Individual Munition by the year 2000, it will be unnecessary to upgrade the whole AT–4 inventory.

Question. What procurement/contracting strategy does the Army intend to use in this program?

Answer. After the appropriation is authorized and the funds are released for execution, the Army plans to openly compete these modifications to the weapons in inventory.

BUNKER DEFEAT MUNITION

Question. The budget includes $7.8 million to initiate procurement of the Bunker Defeat Munition (BDM). Describe this weapon, to include performance characteristics and technical requirements.

Answer. The BDM is a single shot disposable munition designed to defeat earth and timber field fortifications at close combat ranges (15–150 meters). The system will be no more than 40 inches in length and weigh no more than 17 pounds.

Question. Is there a validated requirement for this weapon? If so, please provide it for the record.

Answer. There is a validated requirement for this weapon. The April 13, 1992 Operational Needs Statement is attached.

Question. Provide for the record the procurement funding profile for this system, showing quantities and costs.

Answer. Procurement funding will span over four years starting with Limited Production Urgent (LP(U)) in fiscal year (FY) 1995.

[Dollars in millions]

	Fiscal year—			
	1995	1996	1997	1998
Quantity	2,400	5,800	6,200	6,000
Dollars	$7.8	$11.7	$11.9	$12.5

Question. Also provide the complete Research and Development (R&D) funding profile, to include prior year funding. Describe the specific tasks to be undertaken in fiscal years 1994 and 1995.

Answer.

[Dollars in millions]

	Fiscal year—		
	1993	1994	1995
Quantity	600	300	....
Dollars	$4.7	$6.3	[1] $2.8

[1] Funds required to complete testing.

Specific R&D tasks to be undertaken in FY94 and FY95:

Task	*Quarter*
Complete side by side test	3QFY94
Type classify limited production urgent	3QFY94
Down select to best value system	3QFY94
Award Phase II contract	3QFY94
Award LP (U) production option	2QFY95
Type classify standard	3QFY95
LP(U) materiel release/First Unit Equipped	2QFY96
Award production option #2	2QFY96
Award production option #3	2QFY97
Award production option #4	2QFY98

Question. What are the contract, testing, and other milestones for this program?

Answer. See previous answer for specific milestones.

Question. What other services are procuring BDM? Provide their funding profiles for the record.

Answer. No other services are procuring the BDM.

Question. Describe each of the candidate for this program.

Answer. Contending systems in the congressionally directed side-by-side shoot off are at AT–8 (a variant of the AT–4) manufactured by Alliant Techsystems, Inc., and the Shoulder Launched Multipurpose Assault Weapon Disposable (SMAW–D), (a disposable version of the Marine Corps; SMAW Weapon) manufactured by McDonnell Douglas and Talley Defense Systems.

Question. Describe the procurement/contracting strategy for this program.

Answer. The procurement strategy is a congressionally directed Non-Developmental Item strategy being conducted in two phases. Phase I is a competitive side-by-side test of the candidates concluding with a downselection and the Type Classified Limited Procurement Urgent (TC–LPU) decision allowing us to proceed with the limited production urgent buy. Phase I will include additional technical and operational testing used to support type classification an materiel release.

AMMUNITION INVENTORY OBJECTIVES

The Committee's Survey and Investigations staff is currentl studying the validity of the requirements determination process fo ammunition. They have drafted some questions based on preliminary findings which I ask you to respond to for the record.

Question. Prior to the collapse of the Soviet Union, our nationa military strategy required the Services to maintain sufficient munitions to be able to fight until the industrial base could get into ful production to supply our forces for the duration. The Defense Planning Guidance now requires the Services to be prepared to figh two nearly simultaneous major regional conflicts (MRC) with th munitions they have, a "come as you are" directive. The number o days of expected conflict are identified in ranges of days for thre different levels of intensity. When the conflict is over, the Service plan to replenish to the level of one MRC within two years. Do yo have sufficient munitions to fight and win in the two MRC scenario?

Answer. The Army currently has adequate stocks of preferre and suitable substitute munitions to support warfighting plans The stockpile contains munitions of comparable effectiveness t those employed in Operations Desert Shield and Desert Storm.

Question. Do you have munitions either on the shelf or in procurement to go beyond the expected duration of the conflict?

Answer. The Defense Planning Guidance stipulates Services wil establish munitions requirements adequate to fight and win tw nearly simultaneous Major Regional Conflicts (MRCs). The parameters for these MRCs are spelled out in the Defense Planning Guidance Illustrative Planning Scenarios. In accordance with the Defense Planning Guidance (and the capabilities based munitions requirements process), the Army allocates additional munitions fo "strategic reserve forces" (i.e., forces not planned to be committe to the MRC warfights—primarily Army National Guard units). Except for consideration of industrial base replenishment planning there is no provision for procurement of additional war reserve ammunition stocks above these requirements.

Question. If yes, how many of these conflicts could you fight an win with the munitions you have?

Answer. There is no provision for this in the Defense Plannin Guidance. Analysis of additional combat requirements, beyond th two stipulated MRCs, would require definition of the expected conflict and a recalculation of munitions requirements.

Question. If no, what alternative plans have you made if the conflicts last beyond the expected duration?

Answer. As described above, Strategic Reserve Forces (primaril National Guard units) would undergo mobilization training at th commencement of any regional conflict. These units, with additional ammunition, would be available as follow-on forces if thes conflicts extended beyond the expected duration.

Question. In either case, is this a rational approach to military planning?

Answer. The Defense Planning Guidance provides a coherent framework for military planning.

Question. Is the requirement to replenish to the one Major Regional Conflict (MRC) level within two years a reasonable risk to our national security?

Answer. The planning guidance appears reasonable based on foreseeable threats to U.S. national security interests. Emergence of additional regional threats or the re-emergence of a global war threat would probably necessitate a revision of this replenishment policy. However, in such case, it is assumed that there would be ample warning time available to adjust industrial base replenishment planning.

Question. With the demise of the Soviet Union, U.S. Forces were left without a well-defined threat upon which to base their munitions requirements. Defense guidance floundered for a time before the two major regional conflict scenarios emerged. Illustrative Planning Scenarios were not even promulgated in the Procurement Objective Memorandum (POM) 90 development cycle. What effect did the demise of the Soviet threat have on your true, unconstrained munitions inventory objectives?

Answer. Establishment of inventory objectives is a logistic management function involving distribution and positioning of munitions assets. The change from global war to a strategy based on regional contingencies has had a major impact on munitions requirements. Global war munitions requirements were very large and required mobilization of the industrial base to sustain our forces—for a period of months or years, as required. Based on current guidance, Services will fight from stocks and replenish expenditures after regional conflicts—thereby, all but eliminating industrial base mobilization requirements and significantly reducing overall production demands on the base. The new strategy, focused on regional contingencies (with smaller threats and shorter expected warfights), has resulted in a reduction by over 50 percent in Army war reserve ammunition requirements. Downsizing the force structure also results in smaller training ammunition requirements. Additionally, changes in munitions requirements have not been equally distributed across the stockpile. The Army continues to modernize and field new weapons systems—making our ground forces more reliant on modern, preferred munitions and missiles—which are more effective and generally more expensive to procure.

Question. Has the shifting policy of win-win to win-hold-win and back to win-win had an impact on your munitions requirements determinations?

Answer. No. The Defense Planning Guidance has never addressed a "win-hold-win" strategy.

Question. To what degree have you implemented the capabilities-based munitions requirements process as sponsored by the Joint Staff?

Answer. The Army has fully implemented the capabilities-based munitions requirements process. The capabilities-based methodology (in addition to traditional threat-based combat simulation performed by the Army Concepts Analysis Agency) has been used to determine Army war reserve ammunition requirements since 1992. In fact, the Army was instrumental in development of the capabilities-based process and has worked closely with the Joint Staff on development of this methodology from the outset.

Question. Do you believe this process will help your Service to better determine and justify your munitions requirements?

Answer. Definitely. The capabilities-based requirements process takes into consideration the Army's total force structure, along with weapons densities and logistical capabilities. Since the services will not depend on industrial base mobilization to sustain their forces—fighting from stocks—use of capabilities-based analysis is critical to ensure forces have enough ammunition to start the warfight and to resource the logistics pipeline. The capabilities-based process gives Commanders operational flexibility to support forces with the right ammunition—when and where it is needed.

Question. Do you believe that your munitions inventory objectives will increase or decrease from current estimates when the process is fully implemented?

Answer. Again, inventory objectives involve distribution and positioning of munitions assets. When addressing munitions requirements, dramatic changes are not anticipated. Requirements for some items will change due to changes in force structure, fieldings of new weapons systems and phasing out of older systems, as well as, introduction of new types of ammunition. Broader quantitative changes may occur over time due to changes in intelligence community estimates of threat, weapons forces, and capabilities. Changes to the Defense Planning Guidance (DPG) (particularly the Illustrative Planning Scenarios) will also impact ammunition requirements.

Question. The Department of Defense Bottom-Up Review envisions United States forces will be capable of decisive victory in two nearly simultaneous Major Regional Conflicts, while minimizing the risk of significant American casualties. Underlying this vision is the premise that our Armed Forces will fight a “come as you are” war, and that any expenditures or losses will be replenished, as deemed necessary, within a specific time frame. There is a shortage of preferred munitions in our stockpile and, once these munitions are expended, our forces must begin to draw upon less modern and effective munitions. Does the munitions budget request, as submitted, support the DPG and will preferred munitions be adequately funded in the fiscal year (FY) 1995 budget request?

Answer. Yes. The DPG defines preferred munitions as “those that provide the desired probability of kill against a given target type, or those that significantly improve the survivability of a weapons platform or crew against the projected threat.” Based on the definition, the Army FY95 munitions budget request is compatible with the DPG and represents the best balance of Army priorities and affordability.

Question. If we run short of preferred munitions what options will we have to supply the Services with effective munitions and what are the ramifications if we must use so called discretionary or reasonable substitute munitions?

Answer. The Army currently has adequate stocks of preferred and suitable substitute munitions to support warfighting plans (munitions comparable to those employed during Operation Desert Shield/Desert Storm). Army operational plans are based on the available mix of preferred and substitute munitions. The Army procures modern munitions based on priorities and affordability. As has always been the case, the Army relies on reasonable and effective substitute munitions until adequate quantities of modern munitions are procured.

Question. Have analyses been conducted to determine how long it would take to replenish the munitions stockpile after one or two Major Regional Conflicts, assuming the size and capability of an industrial base likely to exist in four or five years?

Answer. A complete analysis was conducted to determine the ability of the industrial base to replenish, based on latest Defense Planning Guidance. Consideration was given to available stockpile, Future Year Defense Plan demands, and replenishment quantities. A summary level of results was provided in the updated Ammunition Production Base Planning and Restructuring Study provided to Congress in December 1993.

Question. The Services use combat simulation modeling for determining their munitions inventory objectives. The models use guidance provided in the Illustrative Planning Scenarios of the Defense Planning Guidance, Defense Intelligence Agency threat reports, and Service developed assumptions about force structure, weapons mixes and tactics. This is done to determine munitions expenditure rates. The outcomes are dependent upon the validity of the assumptions and may be skewed to present a desired outcome which satisfies a predetermined objective. The Army, responsible for a large portion of conventional munitions requirements, applies professional judgment and combat experience to make adjustments to the factors being provided by the model to arrive at their unconstrained combat requirements. Although the adjustments are reviewed by systems integrators, a full audit trail for these adjustments does not exist. The Marine Corps, which also applies "common sense" to computer supplied factors, fired their modeling contractor because of a lack of an adequate audit trail. How valid are the assumptions your Service uses in the simulation model to determine munitions inventory objectives?

Answer. The assumptions used to combat simulation are provided in the Defense Planning Guidance, Illustrative Planning Scenarios and the Defense Intelligence Agency Outyear Threat Report. Army planners provide additional details concerning forces, available weapons systems, technical data, and tactics to be employed in the simulation. The organization that performs Army combat simulation studies, the Army Concepts Analysis Agency, performs sensitivity analyses to evaluate the impact of different assumptions (i.e., variation of input parameters). Overall guidance and assumptions are considered to be valid and reasonable.

Question. How do you validate your assumptions?

Answer. Concepts Analysis Agency does sensitivity analyses on input parameters. Extensive efforts are also made to validate the process and results of the simulation. Process validation is based on comparisons with historic benchmarks and past combat experience. Rates of fire for the campaign are compared to past studies and historic consumption rates. Results are reviewed and coordinated with Army subject matter experts on an item-by-item basis to ensure errors have not been made in the simulation.

Question. Are your models fully refined to simulate the two Major Regional Contingencies?

Answer. Yes. Independent simulations are performed for the two Major Regional Contingencies. Major Army weapons systems are directly modeled. Other services and allied forces contributions are accounted for in the model and threat targets are allocated accordingly.

Question. Do you make off-line adjustments to the simulation outputs? How can inventory objectives be reliable when adjustments are made to factors provided by computer models when an audit trail to the source for the adjustments does not exist? To what degree do the Services have the ability to back track (audit) their data?

Answer. Off-line adjustments are rarely made. If results seem unrealistic, investigation is concentrated on the simulation model to see if an error has been made. Improvement to the model is a continuous process, based on frequent interaction with Army subject-matter experts. All results are auditable.

Question. What is the standard deviation tolerance which makes factors being provided by the models acceptable?

Answer. There is no "standard deviation tolerance" specified. The Army campaign model is deterministic in nature. A set of requirements is normally produced with results based on variants in the assumptions, rather than variability of the process. For example, one excursion may evaluate a force armed with a new munition, while a second excursion does not. As a rule, excursions are kept to a minimum due to the volume of effort involved.

Question. Do assumptions include weapons in the inventory and those weapon systems planned for introduction in the near term (2 or 3 years)?

Answer. Yes. In fact, force structure and weapon system densities employed in combat simulation for planning and programming purposes are based on a future date specified in the Defense Planning Guidance.

Question. An industrial base must be available for the research, development, production, demilitarization, and disposal processes to ensure attainment of National Security Objectives. Some industry officials feel national security objectives and conventional munitions business objectives are no longer in line due to recent downsizing. The Department of Defense (DoD) does not have a definitive conventional munitions industrial base policy to identify actions to insure an industrial base is maintained to meet the requirements of the U.S. National Military Strategy, and to retain critical skills and capabilities against future need. The industrial base does not receive defense planning guidance and their operations have been adversely affected to the extent they can no longer function in the munitions arena, using accepted prudent business practices. What plans are there to insure the conventional munitions industrial base will have the ability to produce munitions in quantities which satisfy war reserve stockpile requirements of DoD planning guidance?

Answer. An analysis was performed on the requirements to meet peacetime and replenishment quantities. The training and war reserve requirements were identified as peacetime buys in the Future Year Defense Program. The industrial base is being retained for the purpose of meeting these buy quantities, along with replenishment.

Question. Replenish munitions expended during conflicts?

Answer. As stated above, the analysis performed considered both peacetime and replenishment quantities. The industrial base being retained will satisfy those quantities.

Question. Produce peacetime munitions training requirements?

Answer. The analysis performed was on the replenishment portion of the requirement, as well as consideration of the peacetime buys through the FYDP period. The training and war reserve requirements were identified as peacetime buys in the FYDP. The industrial base was retained for the purposes of meeting these buy quantities, along with replenishment.

Question. What plans are there to ensure the conventional munitions industrial base will have the ability to retain necessary technical, engineering, and manufacturing expertise to support the entire acquisition life cycle of conventional munitions?

Answer. By creating the Group Technology Centers (GTCs), similar critical ammunition items are grouped in commodity families based upon manufacturing technologies. Continual effort exists with development centers of all Services to involve the GTCs in developmental action to ensure that the critical capability is preserved through emerging technologies. This capability is reviewed annually to retain that capability needed to support DoD requirements. Disposal occurs when there is not a projected need.

Question. There are currently 38 Contractor-owned, Contractor-operated (COCO) facilities with production equipment packages (government-owned and furnished manufacturing and tooling equipment) and 50 COCOs without these packages. In 1995, the COCOs with these packages are expected to be reduced to 19 and the contractors without the packages are expected to be reduced to 33, reductions of 50 and 34 percent, respectively. Critical manpower skills, such as explosive operators, design engineers, explosive machinists, pyrotechnic and chemical engineers, are being lost. Critical production capabilities for necessary items, such as depleted uranium and fuzes, are also being lost. Once the operating temperature of a production line is lowered from “hot” to “warm” to “cold”, what are the time periods necessary to reconstitute these lines to effectively produce munitions requirements?

Answer. Contractor-operated facilities with production equipment packages will be laid away when equipment is no longer required for production (cold), as long as the equipment must meet replenishment/emergency requirements. From layaway status, it will take 7–8 months to reactivate the line. An additional 4–6 months is required for procurement and award of contract. To keep these equipments in layaway, maintenance funding is required on an annual basis. Contractor-operated facilities, without these packages, would seek commercial work in order to maintain their facilities. As their production lines become cold, they can convert their production line to commercial work. Because the manufacturing process for ammunition requires unique skills and equipment, there is little commercial work available which would utilize these lines. To reconstitute lines to effectively produce munitions, requirements would vary with the complexity of the item to be produced, the required production quantity/rate, and the status of the facility to be "reconstituted." Typically, to create a new metal parts and/or load, assembly and production facility, (i.e., accomplish design, construction, equipment installation and debug), would take 3–4 years (2–3 years for equipment only). At a propellant or explosive facility, it could take anywhere from 3–9 years, based on the complexity and nature of the project. Completion of all plants would be dependent on the waivers that could be obtained from current regulatory practices, as well as existing National Environmental Protection Agency, environmental, and procurement laws. In addition, to be operational may take an additional 6 months to 3 years and again would be a function of the nature of the project and the waivers that could be obtained.

Question. What will be the impact of reconstituting a production line when the employees with requisite skills are no longer available, because they have secured other employment?

Answer. It is essential to have skilled and knowledgeable employees of the ammunition manufacturing process for reactivation or reconstitution of the industrial base. Attempts have been made to capture this knowledge through well-documented standing operating procedures; however, critical skills cannot be documented. Without employees with these critical skills to start up or train newer employees, it would take substantially longer to start production and to reach maximum production schedules.

Question. What environmental impacts will there be upon laid away or closed facilities?

Answer. As facilities are laid away or closed, environmental problems are identified and corrected through the funded layaway or closure project. An evaluation is made to determine if the environmental permits should be maintained or allowed to expire at these laid away facilities. When the facility is reactivated or reconstituted, there may be new or more stringent environmental requirements to consider. The environmental impact will be an increase in the cost and longer lead times for reactivation or reconstitution.

Question. Some commercial conventional munitions manufacturers must refocus technology to meet foreign rather than Department of Defense (DoD) requirements in order to remain viable producers because there is not enough funding to keep their lines open without increased foreign activity. The effect is that Research and Development (R&D) is not DoD directed, longer lead times are required, designs become static and obsolete and products become more expensive. The subtier vendor base is adversely effected, and the ability to surge is diminished without adequate lead time. What actions have the Services taken to insure state-of-the-art technology is available from the American conventional munitions industry?

Answer. Working jointly with the producers in the American conventional munitions industry and their DoD customers, pushing munitions state-of-the-art, such as Program Executive Offices, R&D community and Project Managers programs, insuring development and implementation of state-of-the-art manufacturing technology into the base, have been successfully ongoing. Some examples of the extent of this are the Services' manufacturing technology programs for identification and development of needed manufacturing technology excellence; outreach and dissemination through development and support of the Center for Optics Manufacturing at the University of Rochester; National Center of Excellence for Metalworking Technology at CTC Inc., Johnstown, PA; and strategic planning with the technical communities to identify and address critical Manufacturing Science and Technology needs. The commercial manufacturers, and most government agencies, arsenals, etc., have relied on on-shore industry to develop tooling, both modular and conventional, as well as assembly line transfer devices/material handling equipment, from the American conventional munitions industry to replace use-developed technology lost by the cutback in in-house R&D funding. Other equipment, however, has been purchased from, not only domestic manufacturers, but foreign sources as well, to fill any voids left by non-domestic developed technology. Examples of the state-of-the-art technology include:

(1) Twin Screw Extrusion Machine from Thiokol & Morton, Int'l;
(2) Liquid propellant developed by Thiokol & Olin;
(3) Reclamation of Single Base propellant by Olin;
(4) The Overlay Band Welding Machine developed by Control Systems Co.;
(5) The Centrifugal Casting Machine developed by Centrifugal Casting Machine Co.;
(6) The Austempered Ductile Iron Heat Treatment System developed by Upton Industries;
(7) Rotary Forging equipment, furnaces and material handling equipment at Watervliet were purchased domestically;
(8) The opticam SM and SX machines from the Optics IMIP effort;
(9) The liner forging and CIM machining cell developed through the Alliant Techsystems IMIP; and
(10) Stereo Lithography for rapid prototyping and to develop design to fit component.

Question. What amounts and what is the annual cost of conventional munitions or components procured from foreign sources?

Answer. In fiscal year (FY) 1993, the Army procured a total of $16.2 million from foreign sources on commercial contracts. A breakout of the FY93 procurements are provided below:

	Dollars in millions
Foreign firms—U.S. production	$7.2
Foreign firms—Off shore production	9.0
Total	16.2

There are no buys from foreign sources in FY94. In FY95, the Army plans to procure approximately $8.7 million in components from foreign sources.

WHOLESALE AMMUNITION STOCKPILE

Question. The U.S. Army's Armament Munitions and Chemical Command (AMCCOM) conducted a study on the condition of the wholesale stockpile called the Wholesale Ammunition Stockpile Program (WASP) and reported to the Joint Logistics Commanders in October 1993. This report has been described as an "indictment on the poor condition of the stockpile." The study arrived at the following general conclusions: (a) the current condition of the wholesale base is not consistent with power projection goals; (b) they will be unable to meet a future Desert Storm type scenario with fiscal year (FY) 1990 effectiveness; (c) there is an increased probability of a longer war, a higher casualty rate and increased costs; and (d) there is diminished customer confidence in quality of products and services, and war fighting capability is seriously impacted. To what extent has the condition of the wholesale stockpile impacted the war fighting capability of our forces?

Answer. We are uncertain about the true condition of 100 percent of the stockpile. Both ammunition inspection and testing is underfunded. In FY94 the testing program accomplishes only about 40 percent of the requirement and the curtailed inspection effort will result in about 25 percent of the lots not having a current test inspection. Without improved funding we will be unable to inspect and test to assure that only serviceable and functionally reliable ammunition is issued.

Question. What has been the impact on the inventory accountability physical survey completion rates from FY89 through FY94 and what is projected through FY98?

Answer. The last 100 percent inventory was done in FY89. Since then the trend has been downward to a projected 3 percent inventory accomplishment in FY94. Current budget is for 100 percent in FY95, 48 percent in FY96, 46 percent in FY97, and 25 percent in FY98.

Question. How have lot substitutions been impacted during these time periods, what is the projected impact, and why have substitutions been necessary?

Answer. The desired lot substitution goal is less than 20 percent. It has not been met. The projected FY94 rate increases to about 80 percent, drops to 60 percent in FY95 and levels off at about 30 percent during FY96 through FY99. Lot substitutions are required: when the computer selected lot is not in the proper storage location, when the lot is buried in storage (not accessible); or when stock located does not meet the required quality or quantity for issue.

Question. What has been the impact on the storage base due to retrograde of munitions from Europe and Southwest Asia (SWA)? Does this raise concerns there is a so-called "hollow force" within the Army's Single Manager for Conventional Ammunition (SMCA) wholesale base?

Answer. The impact on the storage base due to retrograde from Europe and Southwest Asia is as follows:

a. Initial returns from Europe and SWA exceeded the available inside storage space, resulting in outside storage which may cause faster deterioration.

b. Mixed munition lots returned from overseas may cause noncompatibility of material to be placed in storage.

c. Available storage space was reduced by the Base Realignment and Closure.

d. Increased tonnage to be rewarehoused.

e. Increased demilitarization requirements.

f. Increased munition tonnage received from other services.

g. "Hollow force" is interpreted to mean SMCA cannot perform its mission with ammunition in the wholesale base. There are concerns about the quality and quantity but not to the extent that the wholesale base is "hollow".

Question. What are the projected costs and time periods necessary to fix problems identified by the Wholesale Ammunition Stockpile Program (WASP) study?

Answer. Subsequent to completion of the WASP, the Army's Functional Area Assessment (FAA) was conducted and Office of the Secretary of Defense support obtained for near full operations and maintenance funding in fiscal year (FY) 1995. If the FY95 funding holds, and the recommended operations and maintenance funding in the Army FAA is supported in the budget process, it is anticipated that the problems identified by the WASP will be rectified by the end of FY98. The FAA recommended plus-ups for ammunition in the Operations and Maintenance, Army account of $81 million in FY96, $95 million in FY97 and $34 million in FY98 with a projected cost avoidance of $56 million in the program in FY99.

[CLERK'S NOTE.—End of questions submitted for the record.]

WEDNESDAY, MARCH 16, 1994.

AIR FORCE PROCUREMENT PROGRAMS

WITNESSES

DARLEEN A. DRUYUN, DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION

LT. GEN. RICHARD E. HAWLEY, USAF, PRINCIPAL DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION

MAJ. GEN. GEORGE T. BABBITT, USAF, DIRECTOR OF SUPPLY, DEPUTY CHIEF OF STAFF FOR LOGISTICS

INTRODUCTION

Mr. MURTHA. The Committee will come to order.

Today the Committee welcomes back Ms. Darleen A. Druyun, Deputy Assistant Secretary of the Air Force for Acquisition, and Lieutenant General Richard E. Hawley, Principal Deputy Assistant Secretary of the Air Force for Acquisition to testify on the fiscal year 1995 Air Force procurement budget request. The request before the Committee for all Department of the Air Force procurement programs is $18.2 billion—virtually the same level as fiscal year 1994.

We are very concerned about the problems that the C–17 has had. As you know, I have asked Mr. Visclosky and Mr. Skeen to investigate that program. We are also concerned about the number of bombers available.

General Hoar—one of the Air Force's best customers—said that he almost had to shut down an exercise in Egypt in order to support the Somalia operation. Somalia is not what I would consider a major operation. I said there was a critical shortfall of airlift, all kinds of problems. I have been asking the witnesses who appear before the Committee not to hesitate to tell us the facts. We think that those facts will be helpful to us. We can't very well go out and support a defense budget of any size if people keep telling us everything is all right.

As a matter of fact, I think the work that this Committee has done has been invaluable to the overall defense effort and I think the votes on the Floor of the House of Representatives have finally forced people and other members to realize through our work that there is a floor and we can't go below that floor.

Of course, with the tempo of operations the way it is, the President has become convinced that he can't go lower on defense budget levels and has been supportive of everything we have tried to do and we have had a real impact on this thinking.

We look forward to hearing your testimony and your answering of the questions that we may have. We hope you will be brief with your statements. We will put your entire statements in the record and get right to the questions.

Mr. McDade?

Mr. McDADE. No questions at this time, Mr. Chairman.

Mr. MURTHA. Secretary Druyun.

SUMMARY STATEMENT OF MS. DRUYUN

Ms. DRUYUN. Mr. Chairman, it is indeed a pleasure to be here today. I would like to insert our statement for the record and begin discussing whatever the issues are that are at hand.

Mr. MURTHA. Thank you very much.

If there are other statements, we will just put them in the record and get right to the questions.

[The joint statement of Ms. Druyun and General Hawley follows:]

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON DEFENSE

UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: Procurement (Air Force)

STATEMENT OF:
Darleen A. Druyun
Deputy Assistant Secretary
of the Air Force (Acquisition)

Lieutenant General Richard E. Hawley
Principal DeputyAssistant Secretary
of the Air Force (Acquisition)

March 1994

NOT FOR PUBLICATION UNTIL RELEASED
BY THE COMMITTEE ON APPROPRIATIONS,
UNITED STATES HOUSE OF REPRESENTATIVES

Biography

United States Air Force

Secretary of the Air Force, Office of Public Affairs, Washington, D.C. 20330-1000

DARLEEN A. DRUYUN

Darleen A. Druyun is deputy assistant secretary for acquisition, Office of the Assistant Secretary of the Air Force for Acquisition, Washington, D.C. She provides assistance to the assistant secretary for acquisition in the formulation, direction and supervision of plans, policies and programs for the procurement and production of goods and services, including major weapons systems for the Air Force.

Ms. Druyun was born Nov. 7, 1947, in Vallejo, Calif. She earned a bachelor's degree in political science from the University of Chaminade in 1968 and completed her course work toward a master's degree from the University of Kentucky in 1970.

She began her federal service career as a contracts negotiator at the Warner Robins Air Logistics Center, Robins Air Force Base, Ga., in June 1970. Other assignments include contracting officer, Lackland Air Force Base, Texas; procurement analyst, Headquarters U.S. Air Force, Washington, D.C.; contract specialist, Contract Review Committee, and director of contract clearance and policy development, Headquarters Air Force Systems Command, Andrews Air Force Base, Md.

Ms. Druyun was deputy associate administrator of the Office of Management and Budget's Federal Procurement Policy Office from July 1980 until June 1982. She was responsible for administering government-wide policies on major systems acquisition and consulting services and was a principal author of the Reagan administration's proposal for a Uniform Federal Procurement System which was the genesis of the Competition in Contracting Act. She also wrote Executive Order 12352 on "Federal Procurement Reforms," which was issued March 17, 1982. In June 1985 she was appointed the principal assistant deputy chief of staff, contracting, Air Force Systems Command headquarters. In this capacity, she was the senior contracting civilian in AFSC and provided direction and oversight in one of the largest buying operations in the world. She was directly responsible as the command's chairperson of the Acquisition Strategy Panel for the planning and execution of contracting strategies designed to translate Air Force requirements into operational defense systems.

Prior to joining the staff of the secretary of the Air Force, Ms. Druyun served as associate administrator for procurement at the National Aeronautics and Space Administration (NASA). She was directly responsible for providing functional management leadership and direction of procurement activities. In April 1992 she was appointed NASA's chief of staff, responsible for providing counsel on all matters of policy and agency procedure; and coordinating all initiatives, directives and documents developed at the administrator's request. Also, she was the primary liaison with the White House and coordinated all staff activities in the immediate office of the administrator. She was appointed to her current position in February 1993.

Ms. Druyun's awards and recognitions include the Presidential Rank Award for Meritorious Executive, Senior Executive Association's Executive Achievement Award, Presidential Rank Award for Distinguished Executive, Air Force Meritorious Award, Air Force Distinguished Service Award, NASA's Outstanding Leadership Medal, and NASA's Distinguished Service Medal.

She is married to William S. Druyun. They have two daughters, Heather Leanne and Erin Nicole.

(Current as of March 1993)

BIOGRAPHY

UNITED STATES AIR FORCE

Secretary of the Air Force
Office of Public Affairs
Washington, D.C., 20330-1690

LIEUTENANT GENERAL RICHARD E. HAWLEY

Lieutenant General Richard E. Hawley is Principal Deputy, Assistant Secretary of the Air Force (Acquisition), Washington, D.C. He serves the Air Force Acquisition Executive in carrying out the management responsibilities for the Air Force acquisition system to include direction, guidance, and supervision over all matters pertaining to the formulation, review, approval, and execution of plans, policies, and programs relative to acquisition.

He entered the Air Force in 1964 following graduation from the United States Air Force Academy. He has commanded an Air Force wing and was commander, U.S. Forces, Japan, and 5th Air Force, with headquarters at Yokota Air Base, Japan, prior to assuming his current position. General Hawley is a command pilot with more than 2,500 flying hours in the C-131, T-39, 0-2A, A-10, F-4 and the F-15. In addition, he served as a forward air controller at Pleiku Air Base, South Vietnam, where he flew 435 combat missions.

General Hawley and his wife, Mary Ellen, have three children: Christopher, Jared, and Richard.

EDUCATION

1964 Bachelor of science degree, U.S. Air Force Academy
1965 Master of Arts Degree in Economics, Georgetown University
1974 Armed Forces Staff College, Norfolk, VA.
1982 Naval War College, Newport, R.I.

ASSIGNMENTS

1. June 1964 - March 1965, student, Georgetown University.
2. March 1965 - September 1966, staff officer, Office of the Deputy Chief of Staff for Personnel, Headquarters, U.S. Air Force, Washingt n, D.C.
3. September 1966 - September 1967, student, pilot training, Williams AFB, Arizona.
4. October 1967 - September 1968, student, F-4C and 0-2A training at Homestead AFB and Hurlburt Field, Florida.
5. September 1968 - September 1969, forward air controller, Pleiku Air Base, South Vietnam.
6. October 1969 - September 1972, combat crew member, 36th Tactical Fighter Wing, Bitburg Air Base, West Germany.
7. September 1972 - June 1973, member, U.S. Air Forces in Europe inspector general team, Wiesbaden Air Base, West Germany.
8. July 1973 - February 1974, student, Armed Forces Staff College, Norfolk, Virginia.
9. February 1974 - March 1976, operations staff officer, Office of the Deputy Chief of Staff for Plans, Headquarters, U.S. Air Force, Washington, District of Columbia.
10. March 1976 - September 1977, assistant executive officer to the Air Force Chief of Staff, Headquarters, U.S. Air Force, Washington, D.C.
11. September 1977 - July 1979, operations officer, 68th Tactical Fighter Squadron; Assistant Deputy Commander for Operations, 347th Tactical Fighter Wing; and 347th Combat Support Group Commander, Moody Air Force Base, Georgia.
12. July 1979 - July 1981, Director of Operations, 1st Tactical Fighter Wing, Langley Air Force Base, Virginia.
13. July 1981 - July 1982, student, Naval War College, Newport, Rhode Island.
14. July 1982 - April 1984, Vice Commander, 313th Air Division, Kadena Air Base, Japan.
15. April 1984 - March 1986. Commander, 18th Tactical Fighter Wing, Kadena Air Base, Japan.
16. March 1986 - September 1986, Special Assistant to the Commander in Chief, Pacific Air Forces, Hickam Air Force Base, Hawaii.
17. September 1986 - August 1987, Vice Commander, 7th Air Force, Osan Air Base, South Korea.
18. August 1987 - August 1989, Deputy Chief of Staff for Plans, Headquarters, Pacific Air Forces, Hickam Air Force Base, Hawaii.
19. August 1989 - August 1991, Director of Operations, Office of the Deputy Chief of Staff, Plans and Operations, Headquarters, U.S. Air Force, Washington, District of Columbia.

20. August 1991 - November 1993, Commander, U.S. Forces, Japan, and 5th Air Force, Yokota Air Base, Japan.
21. November 1993 - present, Principal Deputy, Assistant Secretary of the Air Force for Acquisition, Washington, District of Columbia.

FLIGHT INFORMATION

Rating: command pilot
Flight hours: More than 2,500
Aircraft flown: C-131, T-39, 0-2A, A-10, F-4, F-15
Combat missions flown: 435

MAJOR AWARDS AND DECORATIONS:

Defense Distinguished Service Medal
Air Force Distinguished Service Medal
Legion of Merit
Distinguished Flying Cross with two oak leaf clusters
Meritorious Service Medal with oak leaf cluster
Air Medal with two silver and two bronze oak leaf clusters
Air Force Commendation medal with oak leaf cluster

EFFECTIVE DATES OF PROMOTION:

Second Lieutenant	Jun 3, 1964	Colonel	Jun 1, 1979
First Lieutenant	Dec 3, 1965	Brigadier General	July 1, 1986
Captain	Dec 3, 1967	Major General	Aug 1, 1989
Major	Jan 1, 1972	Lieutenant General	Aug 2, 1991
Lieutenant Colonel	Apr 1, 1976		

Mr Chairman and Members of the Committee:

Thank you for this opportunity to appear before you and discuss the Air Force's procurement activities as proposed in the President's FY '95 budget request. This proposal reflects the continued downward trend of the overall defense budget and of the procurement portion of that budget.

Our procurement request for FY '95 keeps faith with the Air Force plan for phasing major weapon system procurements in a way that avoids large spikes in the overall level of procurement funding needed to support our programs. Having modernized the fighter force in the late 70s and early 80s, we then shifted our attention to the bomber force with acquisition of both the B-1 and B-2. Our focus now is on the airlift force. This request funds continued low rate production of the C-17, and implements the agreement between the Department of Defense and McDonnell Douglas Corporation. That agreement will permit us to stabilize the program and prepare for a decision in November of 1995 on the shape of our future airlift force. At the same time we will continue engineering and manufacturing development of the F-22 that will become the focus of our procurement efforts in the first decade of the next century. The Joint Advanced Strike Technology program is in its infancy, and will eventually lead to procurement in the second decade of the next century of an affordable replacement for the workhorse of today's fighter force--the F-16. This sequential procurement strategy has served the nation well, but requires a long term commitment by generations of policy makers in both the legislative and executive branches. We are here today to ask for your continuing support and to thank you for your support in the past.

Our ability to put leading edge technologies in the hands of our warfighters has been one key to the success of our national security strategy for more than four decades. The modernization programs that we are pursuing today will determine the shape of our forces well into the next century, and if supported with prudent funding levels will produce forces that can continue to ensure the success of our security policies. The Air Force's highest priority programs are the F-22 and the C-17. The F-22 is required to restore our ability to dominate in the battle for control of the skies--both our own and the adversary's. The F-15 has given us that ability since the mid-70s, and with some investment in modernization and continued superior training of our pilots, it will continue to do so through the end of this decade. But as potential adversaries field aircraft and weapons of equal or greater capability, our edge has become increasingly dependent on the superior training of our pilots.

The F-22's combination of stealth, supercruise, integrated avionics and agility, when combined with the unequaled skills of our pilots, will give our combatant commanders airspace dominance. That airspace dominance will, in turn, give them the ability to gain maximum advantage from their other land, sea and air forces. Our commanders must have the ability to win quickly, with minimum friendly casualties, and with minimum loss of life among non-combatants. The key to bringing this capability on line lies in giving our program managers the funding they need to properly execute the program. We are now at that delicate stage in the program where the weight of effort is shifting from engineering design to manufacturing development in preparation for production of the first developmental aircraft.

Just as the F-22 is the right answer to our future air superiority requirements, so is the C-17 the right answer to our future airlift requirements. The C-141 that the C-17 will replace is nearing the end of its useful service life of 45,000 hours--already extended from 30,000 hours through extensive modifications. The C-17 is tailored to carry the equipment of today's and tomorrow's army, unlike the C-141 that was tailored to support the army of 30 years ago. The C-17's efficiency in the air and agility on the ground will give our National Command Authorities the ability to move forces to confront crises at any point on the globe, and to do so at an early stage when crises tend to be most susceptible to control by force with minimal loss of life and destruction of property. We have now delivered five C-17s to the ramp at Charleston, and I am happy to report that the aircrews who fly them and the ground crews who maintain them are impressed. This is a fabulous, flexible airlifter that has the potential to serve the nation well for decades to come.

However, the C-17 program is currently in the penalty box. Those of us responsible for bringing this capability to the force, both in government and in industry, should have done a better job for the taxpayer. We must now prove to everyone's satisfaction that we can produce this airplane on time, within budget and with all required capabilities. Until we can do that, the Department has committed to buy, and has requested funds for no more than 40 C-17s. We will need more than that if we are to provide our warfighters with the most effective and efficient airlift support. We and McDonnell Douglas simply must improve our management of this program if we are to continue beyond the 40th aircraft. We are looking at alternatives should production have to be terminated.

Our bomber forces have taken on a far more flexible, demanding role in power projection. We have learned there is no specific demarcation between strategic and tactical targets, and the bombers provide a continental U.S.-based rapid reaction conventional capability unmatched anywhere in the world. Today's bomber force provides rapid reaction and mass; tomorrow's force will be enhanced by near-precision and precision conventional weapons. When we complete the planned programs for the bombers, each B-2 will have the capability to individually target up to 16 aim points, all the while evading enemy radars. We delivered the first operational B-2 in December of last year, and Air Combat Command is beginning to fully exploit the tremendous capabilities of stealth, range, and payload. With enhanced conventional weapons capability, each B-1 will be able to attack up to 24 targets. These enhancements will pay tremendous dividends in effectiveness per mission and reduced logistics demands for weapons. By 1999, the B-1 fleet will comprise over half of the U.S. bomber fleet. Funding support for the necessary interim contractor support, logistics, and the conventional mission upgrade program is critical to its success.

The payoff from precision and near-precision weapons has been clearly demonstrated, and we now have the potential to field an affordable mix of the two. The Tri-Service Standoff Attack Missile (TSSAM) is the centerpiece of our standoff capability. It brings together all the elements--long standoff distances, low observability, and precision--needed to maximize effectiveness and survivability of launch platforms. This weapon, supported by both the Air Force and the Navy, will allow us to reach beyond nearly any threat to accurately attack high-value targets. The Joint Direct Attack Munition, developed by the Air Force for both the Air Force and Navy, will provide an affordable near-precision capability to the present large inventory of general-purpose and penetrating bombs. Finally, modest upgrades to the Tactical Munitions Dispenser will enhance the Sensor Fuzed Weapon, which will effectively counter any attempts at massed-armor attacks.

As we face the need to do our best for the operating forces, but with fewer resources, the requirement for reform of the acquisition process becomes ever more pressing. We believe the potential exists for substantial savings in both dollars and personnel. The Air Force is actively supporting the efforts of the Deputy Undersecretary of Defense for Acquisition Reform, and leading the way with efforts of our own. Four of the seven OSD Acquisition Pilot Programs are Air Force programs, and we have initiated a series of our own Pilot Programs to investigate the benefits of relief from Air Force imposed restrictions. As the 800 panel reported, the acquisition laws are only the "... apex of a cascading pyramid of restrictive regulations, specifications, and practices." According to a November 1991 American Defense Preparedness Association study of 12 companies done for the panel, it is estimated that the laws add between 30% and 50% to the cost of doing business with the Department of Defense. We are reviewing our own regulations, specifications, and practices to cut "no value added" direction. We are also keeping an active dialogue with the Army and Navy to take advantage of their ideas and to pass on our own.

We view three areas as critical to reform legislation:

- Increasing the simplified acquisition threshold to $100,000
- removing impediments to the purchase of commercial products
- Implementing a vigorous Acquisition Pilot Program.

These legislative reforms will begin the sorely needed process of acquisition reform. But a culture change will be required as well. We must move from a culture in which no one is trusted to one in which trust earned is given.

[The statement of General Babbitt follows:]

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON DEFENSE

UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: Air Force Procurement Program

STATEMENT: MAJOR GENERAL GEORGE T. BABBITT
DIRECTOR OF SUPPLY
DEPUTY CHIEF OF STAFF/LOGISTICS
HEADQUARTERS, UNITED STATES AIR FORCE

16 MARCH 1994

NOT FOR PUBLICATION UNTIL RELEASED
BY THE COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES

MAJOR GENERAL GEORGE T. BABBITT

Major General George T. Babbitt is the director of supply for the U.S. Air Force, Washington, D.C. As the Air Staff's senior supply officer, he is responsible for developing inventory policy and preparing budget estimates that will ensure combat ready air forces now and in the future.

General Babbitt entered the Air Force in 1965 upon graduation from the University of Washington in Seattle and received his commission through the ROTC program. He trained as an aircraft maintenance officer and served as officer-in-charge of fighter flightlines in the United States, the Pacific, and in Europe. He twice commanded aircraft maintenance squadrons and was deputy commander for maintenance of a European F-15 wing.

General Babbitt also served as an acquisition manager. He was twice assigned to major acquisition programs, serving once as a deputy program manager for logistics. Prior to his current assignment, he was director of logistics for Air Training Command and, most recently, for the US Air Forces Europe.

General Babbitt and his wife, Louise, were raised in Washington State and have a son, Ian, and a daughter, Megan.

EDUCATION:

1965 Bachelor of science degree in mechanical engineering, University of Washington, Seattle, WA.
1970 Master of science degree in logistics management, Air Force Institute of Technology, Dayton, OH.
1975 Program Managers Course, Defense Systems Management College, Ft Belvoir, VA.
1978 Armed Forces Staff College, Norfolk, VA.
1986 Air War College, Maxwell AFB, AL.
1989 The Executive Development Program, Kellog School of Business, Northwestern University, Evanston, IN.
1993 Program for Senior Managers in Government, J.F. Kennedy School of Government, Harvard University, Cambridge MA

ASSIGNMENTS:

1. June 1965 - February 1966, student, Aircraft Maintenance Officer Course, Chanute AFB, IL.
2. February 1966 - June 1969, RF-4C maintenance officer, RAF Alconbury, England.
3. June 1969 - September 1970, student, Air Force Institute of Technology, Wright-Patterson AFB, OH.
4. September 1970 - September 1971, squadron maintenance officer, 12th Tactical Reconnaissance Squadron, Tan Son Nhut AB, Vietnam.
5. September 1971 - August 1973, maintenance planner. B-1A System Program Office, Rockwell International, Los Angeles, CA.
6. August 1973 - January 1976, support equipment and spares manager, B-1A System Program Office, Wright-Patterson AFB, OH.

7. January 1976 - January 1978, deputy program manager for logistics, Precision Location Strike System Program Office, Wright-Patterson AFB, OH.
8. January 1978 - July 1978, student, Armed Forces Staff College, Norfolk, VA.
9. July 1978 - August 1980, Maintenance officer and later commander, 1st Aircraft Generation Squadron, Langley AFB, VA.
10. August 1980 - September 1981, commander, 36th Aircraft Generation Squadron Bitburg AB, Germany.
11. September 1981 - July 1985, assistant deputy commander for maintenance and later deputy commander for maintenance. 36th Tactical Fighter Wing, Bitburg AB, Germany.
12. July 1985 - June 1986, student, Air War College, Maxwell AFB, AL.
13. June 1986 - June 1990, division chief and later deputy director of Logistics Plans and Programs, Headquarters U.S Air Force, Washington, D.C.
14. June 1990 - July 1992, director, Logistics, Headquarters Air Training Command, Randolph AFB, TX.
15. July 1992 - June 1993, director, Logistics, Headquarters U.S. Air Forces Europe, Ramstein AB, Germany.
16. June 1993 - present, director of supply, Headquarters U.S. Air Force, Washington, D.C.

MAJOR AWARDS AND DECORATIONS:

Legion of Merit
Bronze Star
Meritorious Service Medal
Air Force Commendation Medal
Vietnam Service Medal
  three service stars
Republic of Vietnam Gallantry
  Cross with Palm

EFFECTIVE DATES OF PROMOTION:

Second Lieutenant	Mar 19, 1965
First Lieutenant	Nov 30, 1966
Captain	Jun 12, 1968
Major	Feb 1, 1975
Lieutenant Colonel	Nov 1, 1979
Colonel	Aug 1, 1984
Brigadier General	Sep 1, 1990
Major General	Jul 1, 1993

MR CHAIRMAN AND MEMBERS OF THE COMMITTEE:

It is my privilege to appear before this Committee today and present the FY 1995 Other Procurement, Air Force (OPAF) budget request. This is my first opportunity to appear before you, and I look forward to working with the Committee.

Our FY 1995 budget requests funding for core programs that support readiness and sustainability, and some limited modernization. The funds we seek will ensure that we are able to maintain our goal of equitably equipping the total force - Active, Air National Guard (ANG), and Air Force Reserves (AFR). The on-going focus in Defense is on "right-sizing" our force structure to meet United States defense needs in an ever-changing, increasingly unstable world. As in past years, the overall force restructuring has been factored into our FY 1995 request.

OPAF consists of three budget programs: Vehicular Equipment, Electronics and Telecommunications Equipment, and Other Base Maintenance and Support Equipment. Munitions and Associated Equipment has been moved to the Weapons Procurement, Air Force appropriation in FY 1995. The diverse array of equipment procured in the OPAF appropriation is essential to the conduct of our day-to-day operations and our ability to deter or counter a wide spectrum of threats to our national security. Before discussing each budget program I would like to point out that our request, excluding Munitions, is $278 million less than FY 1994 as depicted by the following table.

FY 1995 OPAF BUDGET ($M)

	FY 1994	FY 1995	DELTA
Munitions & Assoc Equip	290	0	-290
Vehicular Equip	158	119	-39
Electronics & Telecommunications Equip	1057	785	-272
Other Base Maintenance & Support Equipment	6141	6174	+33
TOTAL (OPAF)	7646	7078	-568

I will now address the three budget programs.

VEHICULAR EQUIPMENT

Vehicles are critical to the successful execution of most Air Force day-to-day operations. Whether it's launching aircraft or deploying and resupplying combat forces, the proper mix of serviceable vehicles is essential to effective mission accomplishment. They are a force multiplier and productivity enhancer.

Despite reducing requirements by nearly 22,000 since 1989 we are still short 20,400 vehicles, mostly general purpose. Further, 23,100 of our 114,000 on-hand vehicles need replacement today and by FY 1995, that number will grow to 40,185. Our FY 1995 request procures 2,381 vehicles as compared with 3,547 in FY 1994. Nearly 44 percent of our FY 1995 request is dedicated to the continuation of two critical flightline vehicles: the 60,000 pound aircraft cargo loader and the R-11 aircraft refueling truck. The remainder of our request procures a variety of vehicles determined by our major commands to be their most critical shortfalls. FY 1995 continues our moratorium on procuring any war reserve materiel vehicles.

I will now briefly describe the six vehicular equipment categories.

SPECIAL PURPOSE VEHICLES

Of the 328 special purpose vehicles requested in FY 1995, 154 are 6,000 gallon aircraft refueling trucks, comprising $22.8 million of the $29.4 million allocated for this vehicle group. The remaining 174 vehicles are a mix of light maintenance trucks, trailer dolly sets for transporting mobility equipment and aircraft tow tractors.

FIRE FIGHTING EQUIPMENT

We are requesting $9.2 million for 40 structural firetrucks and 14 Heavy Rescue Vehicles (HRVs) to replace the P-10 crash rescue vehicle. The HRV enhances our ability to safely extract aircrews from crash scenes as well as provide an initial response capability for hazardous materials spills.

MATERIALS HANDLING EQUIPMENT

Materials Handling Equipment (MHE) is essential to being able to rapidly deploy air forces to any corner of the globe. As the number of fixed operating locations overseas diminishes, our reliance on mobility assets, and our ability to quickly deploy those assets, increases. In FY 1995, we have budgeted $32.7 million for MHE, $29.3 million of which is for the continued procurement of the 60K loader. The 60K loader eliminates the requirement to deploy several types of loaders to handle the various mix of cargo aircraft, both military and commercial, in the U.S. inventory. It will increase our throughput capacity while reducing our logistical footprint. The remaining $3.4 million will procure an assortment of forklifts, container handlers and portable cranes.

CARGO-UTILITY VEHICLES

This category includes light and medium duty cargo trucks of both military and commercial design, as well as carryalls, stepvans, truck tractors and trailers. These vehicles form the backbone of the logistical support provided by transportation, supply and maintenance units to the operational mission. Our requirement includes $29.3 million for 1674 vehicles, of which 663 are pickup trucks costing $6.5 million. Despite the rather significant buy, it represents only 7.5 percent of our pickup requirement. Another $9.4 million is for the purchase of 477 Multistop Vans, the workhorse of flightline maintenance shops and vital to sustaining an acceptable readiness posture. The remainder covers the purchase of 534 vehicles, each type with a procurement value of less than $2 million.

PASSENGER CARRYING VEHICLES

Our request of $16.9 million will purchase 678 vehicles, or 13 percent of our requirement. These vehicles provide everything from aircrew transportation to shuttle bus service to installation security. Many are pooled resources, which maximizes their utilization and reduces the total number needed on any given installation. The largest procurement is $8.1 million for 158 modular ambulances, which support flight operations as well as the base populace.

BASE MAINTENANCE AND CONSTRUCTION EQUIPMENT

These vehicles support the maintenance of the airfield and the surrounding base infrastructure. They include such vehicle types as snow removal trucks, backhoes, trenchers and warehouse sweepers. We have budgeted $2.0 million to procure 23 pieces of equipment in this category. The next budget program is:

ELECTRONICS & TELECOMMUNICATIONS EQUIPMENT

The Electronics and Telecommunications program acquires Command, Control, Communications, and Computer (C4) systems and equipment in support of Air Force, DOD, and other federal agency operations. Equipment procured in this program is used only in ground applications and ranges from lightweight, hand-held Global Positioning Satellite sets to fixed base, telephone switching systems. Our total FY 1995 Electronics and Telecommunications request is $784.6 million, down $272.8 million from FY 1994.

STRATEGIC/SPACE SYSTEMS

Even with the disappearance of the Soviet nuclear threat and the resulting reduction in strategic weapon arsenals, there is an ever present need to continue modernization of our Tactical Warning and Attack Assessment (TW/AA) sensors and supporting command, control, communications, and computer (C4) systems. I will now highlight some of the significant strategic/space programs associated with our FY 1995 request.

Defense Support Program. The Defense Support Program (DSP) is a mature, early warning system deployed to warn the National Command Authorities of ballistic missile attack and nuclear detonation. The FY 1995 funding of $15.1 million will procure hardware to provide an organic, depot-level software capability for upgrades to satellite readout station equipment.

Strategic Command and Control. FY 1995 request of $8.3 million includes $2.3 million for continued upgrade of the Strategic War Planning System (SWPS), which produces the nation's nuclear war plan and performs bomber conventional planning. Also included in our request is $2.1 million for the National Military Command System (NMCS), $1 million for the B-1B technical support center (TSC) at Oklahoma City Air Logistics Center, and $2.9 million to continue upgrade of Strategic Command's Mobile Alternate Headquarters which provides an austere force management capability during Single Integrated Operations Plan trans/post-attack periods.

Cheyenne Mountain Complex. The NORAD Command Center (Granite Sentry) located in Cheyenne Mountain provides the NORAD Commander-in-Chief with the facilities and communications necessary to exercise command and control over his assigned forces and to provide essential decision-making information to the National Command Authorities. Requested FY 1995 funding is $15.2 million. Major efforts include continuation of an upgrade to the CINC Mobile Alternate Headquarters and implementation of the Cheyenne Mountain Training System which provides computer-based training systems hardware for Combat Crew Training Squadron mission training.

Defense Meteorological Satellite Program. The Defense Meteorological Satellite Program (DMSP) is a fielded, joint service program which provides meteorological data to support worldwide DoD operations. Our request for $16.1 million continues procurement of small tactical terminals.

Air Force Satellite Control Network. The Air Force Satellite Control Network (AFSCN) is a national asset tasked to provide telemetry, tracking and commanding (TT&C) communications mission data dissemination and processing support to operational DOD space systems, RDT&E space systems, and other assigned programs. The FY 1995 program of $25.8 million will continue the evolutionary upgrade of the command and control system to a less software intensive system, requiring fewer people with lower skill levels to operate and maintain. FY 1995 funding is essential to ensure continued support of current and future satellite programs.

Eastern Range (ER)/Western Range (WR) Improvement and Modernization (I&M). The two national ranges, the Eastern Range at Patrick AFB, FL and the Western Range at Vandenberg AFB, CA, provide primary support for all U.S. space launch and strategic missile test programs, conduct radar tracking and telemetry tests in support of aeronautical test operations, and support operational testing of the United Kingdom's Polaris ballistic missile launches. Our FY 1995 request of $116.6 million continues a concerted effort by the Air Force to upgrade and modernize outdated technologies and logistically insupportable equipment at both ranges and their remote range tracking sites. Numerous projects are programmed to replace or upgrade portions of tracking and instrumentation systems which have become insupportable or incapable of meeting mission requirements.

Military Satellite Communications (MILSATCOM). This program supports acquisition of military satellite communications satisfying validated strategic, tactical, and general purpose requirements. Our FY 1995 request of $3.8 million will continue procurement of Extremely High Frequency (EHF) Support Shelters and procure Uninterruptible Power Supplies to protect equipment in the event of primary power fluctuations.

I will now move on to the next category, Tactical Systems.

TACTICAL SYSTEMS

Modern interoperable, jam-resistant, secure Command, Control and Communications (C3) equipment for theater and tactical forces are essential to effective combat operations. Major FY 1995 programs are:

Theater Air Control Systems Improvements (TACSI). The Theater Air Control System (TACS) provides the means for centralized control and decentralized execution of tactical combat aircraft. The FY 1995 request for $78.8 million continues pre-planned product improvement and procures additional Mission Planning Systems.

Air Mobility Command (AMC) Command and Control (AMC C2). The AMC C2 program is an umbrella program which continues upgrades to centralized command and control systems of the AMC airlift fleet in accordance with the developed AMC C2 architecture to optimize use of our limited airlift resources. Our FY 1995 request of $16.3 million continues Information Processing System procurement which provides integrated, automated capabilities for the tanker fleet and funds several AMC base level automation systems supporting the global command and control architecture.

Satellite Terminals. Satellite communications, a vital part of Air Force communications connectivity, carried the bulk of communications in the Persian Gulf War. The satellite terminal program procures ground satellite equipment in support of Unified and Specified CINCs, the National Command Authorities, U.S. combat forces and NATO. Our FY 1995 funding of $5.4 million continues upgrade of both deployable and fixed terminals with the addition of anti-jam and jam resistant capability.

Tactical C-E Equipment. The Tactical C-E Equipment program procures command and control systems for combat forces. The FY 1995 request of $41.7 million continues procurement of the Base Recovery Communications System which provides the capability to manage base recovery efforts. Funds also continue procurement of a family of lightweight, modular, theater deployable communications equipment. This equipment will significantly reduce airlift required to provide an early deployment command and control capability for our combat forces. Additionally, FY 1995 funds continue integration of the Army's SINCGARS radio into the PACER SPEAK radio system permitting Air Force interoperability with Army maneuver units. The next area I will discuss is:

BASE COMMUNICATIONS ELECTRONICS SYSTEMS

The Air Force has requirements at all its bases for a large variety of systems which cover all facets of base operations. These systems make up the infrastructure that is the support foundation for all Air Force combat operations. Major FY 1995 programs follow:

Air Traffic Control and Landing Systems (ATCALS). Air Traffic Control and Landing Systems combine USAF ground facilities and equipment with associated avionics, personnel and procedures to provide air traffic control support to USAF/DOD flying missions worldwide. FY 1995 funding of $2.4 million replaces outdated vacuum tube technology with video mappers.

Weather Observation & Forecast. This program provides essential weather equipment/capabilities to Air Force and Army operations. The FY 1995 funding of $21.3 million continues pre-planned product improvement for the Automated Weather Distribution System ($15.4 million) by procuring satellite and doppler weather radar receiver equipment. The remaining funds support several smaller weather projects.

Automatic Data Processing Equipment (ADPE). This procurement line acts as an umbrella program for Air Force-wide ADPE acquisitions or equipment additions to government-owned computer systems. Some of our larger on-going efforts funded in FY 1995 include: (1) Normalized Support for Space and Warning Systems which will eliminate duplicative suites of equipment and proprietary contractor support for each system, (2) the Embedded Computer Resources Support Improvement Program (ESIP) which procures hardware to improve productivity and quality of weapons system software, (3) the Advanced Training System (ATS) which provides automation for technical and medical service training wings to allow them to train more effectively, and (4) upgrades of departmental network systems and mainframe computers. The above programs account for over one-half of our FY 1995 request of $39.1 million.

WWMCCS/Global Command and Control System (GCCS). The Air Force request of $12.6 million provides Automatic Data Processing (ADP) equipment for three command and control projects within the Air Force: (1) the Air Force Command and Control Network, (2) the Air

Force Command and Control System, and (3) Air Combat Command and Control System Modernization.

Air Force Physical Security. With decreasing manpower, procurement of highly advanced security systems to protect valuable Air Force resources is a must. The FY 1995 request contains $25.5 million for continued procurement of such items as air base ground defense communications equipment, perimeter sensors, aircraft shelter sensors, intrusion detection systems and anti-terrorist physical security equipment.

Base Level Data Automation. This program provides standard data processing support to virtually every base level functional area. FY 1995 funding of $34.1 million continues several major efforts: (1) Regionalization, formerly called Base Level Computer Program, completes the movement of base level data processing to five CONUS Regional Processing Centers (RPCs), (2) the Combat Ammunition System (CAS) to improve Air Force combat capability by providing effective munitions logistics command and control at each level of combat direction and execution, (3) Base Level Systems Modernization, formerly called Standard System Modernization, which procures hardware to allow the three pilot functional software modules to be fielded in an open systems environment which does not currently exist at the RPCs, and (4) Fuels Automated

Management System (FAMS) which procures state-of-the-art hardware to automate the management and control of the Air Force's petroleum resources that support both peacetime and wartime operations.

Telephone Exchange. Continued modernization of our base communications infrastructure remains a priority. This on-going effort prioritizes all requirements; replaces failing systems with new digital, computer-based exchanges; upgrades or replaces outdated transmission systems; and finally, buys out expensive leases. We require $44.9 million to replace telephone switching systems at three locations; procure a major distribution/premise equipment replacement project at Shaw AFB SC; and provide for 19 Base Information Digital Distribution System (BIDDS) management subsystem installations. Additionally, $17.7 million funds various types of telecommunications support for the Air National Guard (ANG) at multiple ANG bases.

Automated Telecommunications Program. This program continues acquisition of equipment in support of Air Force Defense Data Network (DDN), Secure Voice and Red Switch networking. Increased funding in FY 1995, $29.6 million, is attributable to procurement of Defense Message System (DMS) hardware which will provide multi-level security capability and writer-to-reader service.

Radio Equipment. Equipment in the majority of our global High Frequency (HF) radio stations is more than 20 years old, costly and increasingly difficult to maintain. The FY 1995 request of $19.6 million begins procurement of state-of-the-art, commercially available radio equipment in support of the Air Force portion of the new HF architecture which is evolving from a DOD effort to reduce and collocate/close facilities throughout the world.

The last category I will discuss is:

LOGISTICS SUPPORT AND TRAINING

Combat Training Ranges. Formerly called Range Improvement Program, this program procures equipment for Air Force ranges to support training of air crews and operational testing and evaluation of weapon system tactics under simulated combat conditions. FY 1995 funding of $17 million is $7 million less than FY 1994 and is for continuation of Joint Air Combat Training System (JACTS) at Nellis AFB, NV. JACTS will upgrade the range to a 100 vice 36 aircraft configuration.

Items Less Than $2.0 Million. This budget line funds numerous items of electronics and telecommunications equipment such as radios, telephones, recorders, and test equipment. Also included is funding for replacement Power Conditioning and Continuation Interface Equipment (PCCIE) as well as ground processing equipment to support Arms Control treaty requirements. Our FY 1995 request is for $9.5 million.

Communications-Electronics Modifications. This budget line funds modernization to correct reliability and maintainability deficiencies. Our FY 1995 request of $18.9 million continues on-going modifications on the Atmospheric Early Warning System (AEWS) and begins two new modifications on Weather systems.

Space Systems Modifications. We are requesting $29.7 million for Space Command modifications. Specifically, FY 1995 begins modification on the Air Force Satellite Control Network and continues on-going efforts on the Defense Meteorological Satellite Program, NAVSTAR Global Positioning System (GPS) and the Spacetrack Network. These modifications are essential to keep space systems mission capable and ready to support our combat forces and will significantly increase the mean-time-between failure.

This concludes an overview of the key programs covered by the Electronics and Telecommunications budget activity. I will now address the last budget program, Other Base Maintenance and Support Equipment.

OTHER BASE MAINTENANCE AND SUPPORT EQUIPMENT

This budget program includes a wide array of equipment. Some are high technology items such as test and calibration equipment, and some are low technology items such as air cargo pallets and nets. All are critical infrastructure and personal support items needed to equip and operate the total force on a daily basis. Most of the items are not glamorous and do not attract attention until they are needed and not available.

A summary of some of the items requested in FY 1995 follows.

TEST EQUIPMENT

As we place ever greater reliance on high technology weapon systems to partially offset force reductions, we must continue to modernize our measurement standards and calibration equipment. Maintainers must have the equipment they need to insure our weapon systems function to their maximum capabilities. Our request includes $23.3 million for this effort.

PERSONAL SAFETY AND RESCUE EQUIPMENT

Fire fighters life support equipment as well as equipment that enables our people to operate and survive in a chemical/biological warfare environment is included in this area. Life preservers, life rafts, and anti-exposure suits are also included. Our FY 1995 request of $15.8 million, will continue procurement of state-of-the-art breathing equipment for our fire fighters which meets National Fire Protection Association Standards and aircrew oxygen masks which afford crews improved chemical agent protection, visibility, fit, and comfort. We will also procure a disposable chemical protection mask which can be carried in a uniform pocket when the chemical threat is considered low. Additionally, we are continuing to procure mustard agent detection and radiation detection equipment.

INDUSTRIAL PLANT AND MATERIAL HANDLING EQUIPMENT

This category includes industrial plant equipment necessary to support base level maintenance functions. Included are items such as welders, lathes, and drilling machines which are used in the repair and maintenance of aircraft engines, hydraulic and pneudraulic systems, landing gear, airframe components, and instrumentation. Although past investments have modernized support, much of the equipment is beyond its life expectancy. We are requesting $4.1 million to continue upgrades which will ensure a more effective repair process and enhance readiness and sustainability by reducing aircraft downtime, and increasing aircraft availability. The FY 1995 request also includes $18.1 million for automated material handling equipment which maximizes productivity in weapon system component storage and processing.

ELECTRICAL EQUIPMENT

We require $7.9 million to procure mobile electric power generators ranging from 5KW to 60KW, and two generator power plants. These generators supply critical primary and backup power to hospitals, communications systems, radar systems, control towers, and runway lighting systems, as well as other maintenance facilities. This equipment is critical not only for daily use on air bases, but also to units at remote locations and units with mobility commitments to forward operating locations.

BASE SUPPORT EQUIPMENT

Base Support is the most diverse category. It includes medical and dental war reserve equipment, pallets, environmental equipment, air base operability equipment, photographic equipment, mobility equipment, base procured investment equipment, and productivity programs. Our FY 1995 request is $177.4 million. There is decreased FY 1995 funding for several of the projects within this budget category. However, there is an overall increase of $9.0 million from FY 1994 to FY 1995 due to the aggregation of all OPAF spares funding into one P-1 line in this budget activity. I will discuss some of the larger dollar programs.

Environmental Projects. In keeping with the Air Force's commitment to environmental leadership we are requesting $23.6 million in FY 1995. These funds support 150 projects across ten major commands. Selected examples include ultrasonic cleaning units to replace solvent degreasing in aircraft maintenance functions; refrigerant reclamation units which support projects designed to contain ozone depleting chemicals used in air conditioners; high efficiency paint booth filters related to projects designed to reduce emission in painting applications; and heavy metal precipitation systems to remove the hazardous constituents from various industrial operations in both aircraft maintenance and support operations.

Medical/Dental Equipment. Our FY 1995 request contains $13.9 million, an increase of $4.2 million over FY 1994, for two critical readiness items. First is the purchase of patient ventilators used in aeromedical evacuation. Ventilators are a critical component of a patient care system which provides for the prompt evacuation of casualties. Continued procurement of Transportable Blood Transshipment Centers (TBTC) which provide the capability for prepositioning and inter/intra theater transportation of frozen blood at ultra low temperatures is also requested. TBTC increases storage life, provides for immediate theater availability of blood, and reduces initial surge transportation requirements.

Base Procured Investment Equipment. Another key program is Base Procured Investment Equipment(BPIE) which provides base level commanders the funding to procure non-centrally managed investment items costing over $25,000. Typical items procured are aircraft and vehicle corrosion control equipment, fire alarm systems, copiers, shredders and graphics equipment, specialized laboratory equipment, and dining hall equipment. Our request for $17 million supports roughly 50 percent of stated requirements.

Mobility Equipment. This funding line makes possible the continued success of our Bare Base program, more commonly known as Harvest Falcon. It provides a rapidly deployable array of equipment designed and sized to provide billeting, maintenance support, and air field support. This program became legendary during Operation Desert Storm. Since then the equipment continues to be extensively used in support of contingency operations such as Southern Watch, Provide Relief, Provide Promise, Provide Comfort, and Restore Hope. To keep the system viable we need $12.8 million in FY 1995 to procure refueling equipment, water system equipment, and refrigeration equipment.

Air Base Operability (ABO). This program provides equipment to enhance the survivability, recovery, and support infrastructure necessary to sustain air operations from forward-based fixed locations or forward deployed operating locations during conventional and/or chemical attack. The goal of ABO is to defend against air and ground attack, survive any damage inflicted, and recover to full operational posture while continuing to generate combat sorties. The FY 1995 request of $4.8 million will procure rapid utility repair equipment, fiberglass runway/parking apron mat anchoring equipment, mobile aircraft arresting systems, multi-spectral aircraft decoys, and multi-spectral smoke generators.

Productivity Enhancement/Investment. The last program I will address deals with productivity. Productivity Enhancements and Productivity Investments are two programs that center around fast pay back capital investments to improve effectiveness and efficiency of Air Force organizations and units. Many of these improvements are generated as suggestions from our intuitive troops in the field, and have been most successful in cutting costs and reducing manpower. Funding requested in FY 1995 is $14.4 million.

SPECIAL SUPPORT PROJECTS

This is the last category and largest dollar value. However, only a small percentage of the funding is equipment-related. The funding I will address is for First Destination Transportation (FDT), and Technical Surveillance Countermeasures Equipment (TSCE). FDT funds transportation costs associated with all procurement appropriations and is considered a must pay bill since it pays for movement of Air Force purchased property from the manufacturers' facility. TSCE funding supports the acquisition of equipment used by Air Force Office of Special Investigations agents during their counterintelligence and law enforcement duties.

This concludes my prepared statement, Mr. Chairman. I would like to thank you and the members of your committee for your time and support. I solicit your continued support and look forward to working with you in the days ahead. I will be pleased to answer any questions.

C–17 AIRCRAFT

Mr. MURTHA. I think we will skip over the problems with the C–17 until Mr. Visclosky and Mr. Skeen come, because they have spent so much time examining the program, and they will be very helpful to this Committee in trying to make sure we make the right decisions.

The guidance that Mr. McDade and I gave them last year when they did their study was to determine if it is cost effective to build eight or nine C–17s annually, or to terminate the program entirely. If there is another alternative such as using commercial wide body aircraft in order to fix the airlift problem quickly and still have a long-term solution, the Committee needs to consider it.

Most of the witnesses that have come before the Committee—most of your customers—have said they need a C–17, but there are a number that have said they will address the strategic airlift requirement with whatever assets are available and are not sure the C–17 is absolutely necessary to the overall airlift mix. There is no question airlift needs to be fixed. We have tried to do the same thing with sealift.

TRI-SERVICE STANDOFF ATTACK MISSILE (TSSAM)

You have another troubled program, TSSAM. We have recommended TSSAM for termination in the past and the Committee is advised that test flight failures continue, but if you would, please discuss the status of the program and what you see as the problems with TSSAM.

Ms. DRUYUN. Mr. Chairman, it is very clear to us that TSSAM is a program that continues to have serious problems, but it is salvageable as far as I am concerned.

When you look at the problems we have seen recently on TSSAM, the last three flight tests were failures and basically those failures are quality problems. I believe strongly from an in-depth review I have recently conducted along with an independent review team's examination of the program, that the problems are quality-type problems that mirror the types of problems we saw with the AMRAAM program in the late eighties.

Today the program is basically six months behind schedule. Northrop should have had 25 launches by now. We have had 17. They are approximately 20 vehicles late for EMD articles that are required for the tests.

I can tell you that the user, General Loh, I have personally spoken to him, and he is committed to the TSSAM program and views it as the cornerstone of a standoff weapon.

There have been some good things about the TSSAM program that we have demonstrated in the flight test, for example. Signature and range exceed the requirements laid out in the system's operational requirements document verified by flight and group testing and the enroute and terminal accuracy is also exceeding its requirement.

I met with Mr. Kressa (Northrop CEO) two weeks ago to review the status of the program with him. We agreed to begin having monthly meetings, the first 24 March. We will be looking at what I term hard-core metrics to get an in-depth understanding of what the quality problems and manufacturing and process problems are and basically get those back under control.

I have spoken to——

Mr. MURTHA. Let me interrupt because it is so important that you have this kind of interface with the company. I remember well a few years ago when I went out to visit the C–17 program and talked to the Air Force brigadier general in charge of the program. He said he could not even talk to the contractor about technical issues concerning the program without getting legal authority.

I found out later that there were all kinds of what the Air Force considered safeguards in the contract negotiation process that were actually hindrances to a viable program. The Air Force recognized there was a problem early on with a subcontractor. McDonnell Douglas wasn't willing to address it, and after our pressure, they fired one company and hired another, and there was progress. I appreciate that you are interfacing with him and talking to them.

Ms. DRUYUN. It is basically a team approach that I have taken with respect to this issue. I called upon the expertise of Lieutenant General Franklin, who was the Program Director of AMRAAM in the late eighties and asked if he would spend a day with me reviewing the TSSAM program. He agreed that the problems we're seeing mirror what he experienced in the AMRAAM program.

I am working closely with the DPRO and the user. When we meet with Mr. Kresa, beginning 24 March, it has been more of a DOD team working this. Since the Navy is also a partner in the TSSAM, I have met with Nora Slatkin and she has expressed interest that future meetings be held in Washington and she would like to attend them as Navy SAE to focus on the problems.

When you look at the problems, I term them as management, quality and process problems. Manufacturing processes are allowing faulty integration in subsystems, which is causing these missile failures.

I believe the design of the missile is basically sound. What we are seeing though are a number of design changes continuing to occur on a monthly basis for producibility reasons and what I intend to do is to basically establish a firm baseline and to understand exactly what that firm baseline is and then to do incremental upgrades to it and stop this continuing engineering traffic that we are experiencing on a monthly basis.

I think with the joint effort that would be brought to bear collectively by DOD, Mr. Kresa told me that he is personally committed to this program.

This company has invested over $700 million in this program, their subs approximately $300 million, and Mr. Kresa recognizes the importance to the user and is committed to turning around the problems that we are experiencing.

I will not go for a long-lead DAB in May. We are not ready and I have told the Under Secretary of Defense for Acquisition that I will not ask for a long-lead decision.

I am looking at two options. First, to basically postpone a long-lead decision until we complete all of the exit criteria we have for long lead.

In my opinion, it is not robust enough. I would like to add additional criteria into it to demonstrate confidence that we have basically under control and understand what the manufacturing problems are.

The second alternative that I am looking at, and it would be a more painful alternative to the company, is to skip a long-lead DAB and wait until next year and do an LRIP decision where I could have more flights and understand exactly where we are.

I can't tell you which route we are going to take. I still have an independent review team that will be reporting to me next week on flight readiness and I will be meeting collectively with the folks on the third floor of the OSD staff as well as Ms. Slatkin and will formulate in the next six to eight weeks about what our final recommendation is going to be.

At that time, we plan on coming over and sitting down with the various staffs on the Hill to let them understand what our recommendations are and the reasons supporting that.

Mr. MURTHA. I am encouraged by what you say and your recommendations. In fact, we are never going to be able to fund all these programs. We are better off getting rid of the programs now if they don't work so I think your cautious approach is the approach to take.

I appreciate what you are doing. This Committee has been extremely concerned. We were concerned about the AMRAAM, but we had confidence it would eventually work out and we kept funding it and it did work out and has been a very good system. So we applaud you for the work you are doing in that regard and will support you in any way that we can.

Ms. DRUYUN. In the late eighties, I worked very closely with the AMRAAM Office to focus on the issues and focus on the root causes and get them fixed. That is the same approach we are taking on the TSSAM program

Mr. MURTHA. Mr. McDade.

Mr. McDADE. I have questions on items to submit for the record.

PRESENT STATE OF THE B–2

There are a host of issues concerning the adequacy of the overall bomber force proposed in the Bottom-Up Review and the committee is going to address that larger issue in special hearings and investigations that the chairman has directed. Today, however, there are specific questions about the present state of the B–2 that I want to get on the record.

What is the present delivery schedule for the B–2?

General HAWLEY. We delivered the first operational B–2 in December to Whiteman. The next aircraft will be delivered next month in April and by the end of this year, we will have five aircraft on the ramp at Whiteman. The last aircraft, the 21st, will be delivered in 1998 and, of course, as you know, we will be having block upgrades to all the earlier airplanes to achieve a common configuration and we will have common configurations established for all 20 operational airplanes at the turn of the century.

Mr. McDADE. When will the first squadron be declared operational?

General HAWLEY. We will have a substantial capability to deliver to the warfighting commanders early in 1995 when we will have about five aircraft available for initial capability. We will have eight Block 20's, which is one squadron, ready in 1997 and that squadron will be able to deliver with limited test assets the TSSAM.

We have full operational capabilities with Block 30 airplanes in 1999.

Mr. McDade. What conventional capability does the B–2 possess today?

Take it to today first.

General Hawley. The one on the ramp today gives you 16 MK–84s. That is a 2000-pound bomb.

Mr. McDade. As opposed to the B–1?

General Hawley. The B–1 can deliver 84 MK–82s, which is a 500-pound bomb.

The B–52 can carry 51—this is the 51 MK–82s.

Mr. McDade. As opposed to anything else you can think of?

General Hawley. As opposed to the F–111 which can carry about 16 bombs fully loaded. That is a real heavy load.

Mr. McDade. We want to see the information you give us reflect apples to apples.

If you are talking about different size bombs than you did, one 2000, one 500, find a way to level the playing field so we can see the delivery capability of the platforms.

[The information follows:]

[The following table lists which munitions go on which aircraft:]

BOMBER WEAPONS LOADING

WEAPON	GUIDANCE SYSTEM	WEIGHT	WARHEAD WEIGHT/TYPE	B-52H INT/EXT#	B-1 INT#	B-2 INT#
GENERAL PURPOSE						
MK-82 LDGP	N/A	500	500	*27/18	84	80
MK-82 SE	N/A	500	500	*27/18		
MK-82 AIR	N/A	500	500	*27/18	*84	80
MK-84 LDGP	N/A	2000	2000	*8/10		*16
M-117 LDGP	N/A	750	750	*27/18		36
M-117 R	N/A	750	750	*27/18		36
PRECISION MUNITIONS						
GBU-10 (PAVEWAY I)	**LASER	2000	2000	*0/8		
GBU-10 (PAVEWAY II)	**LASER	2000	2000	*0/10		
GBU-12 (PAVEWAY III)	**LASER	500	500	*0/10		
JDAM 1	INS/GPS	2000	2000	0/12	24	16
JDAM (PIP)	INS/GPS/TBD	2000	2000	0/12	24	16
STANDOFF MUNITIONS						
TSSAM	INS/GPS/IIR	2000	UNITARY/SUB	0/12	12	8
JSOW	INS/GPS	1000	BLU-108		12	
AGM-86/C CALCM	INS/GPS	3000	1000	*8/12		
AGM-84 HARPOON	INS/RADAR	1000	500	*0/8		
AGM-142 HAVE NAP	TV/IIR	3000	750/I-800	*0/3-4		
CBU						
CBU-52	N/A	750	BLU-61	*27/18		
CBU-58	N/A	750	BLU-63	*27/18		
CBU-7I	N/A	750	BLU-86	*27/18		
CBU-87 CEM	N/A	1000	BLU-97	*6/18	30	36
CBU-89 GATOR	N/A	750	BLU-91&92	*6/18	30	36
CBU-97 SFW	N/A	750	BLU-108		30	36
MK-20 ROCKEYE	N/A	500	MK-118	*0/18		
NAVAL MINES						
MK-36 DST	N/A	500	500	*27/18	84	
MK-40 DST	N/A	1000	1000	*0/18		
MK-52	N/A	1000	625	*12/18		
MK-55/56	N/A	2000/2000	1290/360	*8/12		
MK-60 CAPTOR	N/A	2000	MK-46	*8/10		
MK-62	N/A	500	500	*27/18	84	80
MK-63	N/A	1000	1000	*0/18		
MK-64/65	N/A	2000/2000	2000/2000	*8/10		
NUCLEAR						
B-83	N/A	N/A	N/A	*8/0	*24	16
B-61	N/A	N/A	N/A	*8/0	*24	16
B-53	N/A	N/A	N/A	*2/0		
ALCM	N/A	N/A	N/A	*8/12	8	
ACM	N/A	N/A	N/A	*0/12	9	
SRAM	N/A	N/A	N/A	*8/0	*24	

*Currently Certified　　**Requires second aircraft to guide weapon　　#Internal/External Carriage

Current as of 11 Apr 94

Mr. MURTHA. Also put in the radar cross section of each aircraft because this Committee feels very strongly about the capability of the B–2. We know that the B–1 has problems and we are in the process of making a decision on how much money we are willing to spend to reduce the radar cross section on the B–1.

[The information follows:]

The Air Force has no issues with the radar cross section (RCS) of the B–1 or B–52. RCS characteristics are but one element in the calculus of bomber survivability. Stealth, or very low RCS, was a key parameter in the B–2 design, and was important in the B–1B design. During its development in the early 1980s, the B–1B's RCS, particularly from the forward quadrant, was reduced below that attained with the earlier B–1A. RCS was not a major factor when the B–52 was designed in the early 1950s.

While we plan no funds for B–1 RCS reduction, the B–1 Conventional Mission Upgrade Program includes $1.2B for upgrades to electronic countermeasures that are important to the B–1's survivability in the conventional arena. Major elements of this program include ability to cope with the more diverse threat environment, improved situational awareness, addition of high altitude countermeasures, and better supportability.

GPS AIDED TARGETING SYSTEM/GPS AIDED MUNITIONS (GATS/GAMS)

Mr. MCDADE. Let me draw your attention to munitions.

Under present scheduling, when will the capability of the interim GPS-aided munition being integrated into the B–2?

General HAWLEY. We will begin testing the GATS in fiscal year 1995 and the GATS will be capable in fiscal year 1996. That is when we get the Block 20. That will have the GPS-aided targeting system. We will not have the JDAM weapon to go with the GATS until beginning in 1997 when we begin to procure some test assets.

Mr. MCDADE. Tell me how these work together, will you?

General HAWLEY. Okay.

The GPS-aided targeting system is inherent to the airplane and that is a system we are building into the B–2, which will allow us to exploit the capabilities of the radar to improve the accuracy of the GPS inertial-guided weapons that we are going to buy for the airplane called JDAM.

We are going to test that capability with a weapon called GAM, GPS-aided munition, I guess that stands for, which is purely a test asset and designed to validate the GATS modification to the airplane.

Mr. MCDADE. Which is all pointing toward increased accuracy, the GPS system and existing radars in the airplane?

General HAWLEY. All pointing toward getting a near precision capability on the airplane.

The weapon we intend to use is JDAM. We are going to procure 128 test assets in the JDAM program which will be designated to give us an early operational capability. Those test assets will start delivering in 1997. We will have them all delivered in 1998.

JOINT DIRECT ATTACK MUNITION (JDAM)

Mr. MCDADE. How big is the warhead on the JDAM?

General HAWLEY. The JDAM is a modification kit which goes on the MK–84 bomb, so it takes the existing general-purpose bomb and puts a guidance kit on it and gives it near precision accuracy.

Mr. MCDADE. What is the capability of the GAM as opposed to the capability of the JDAM?

General HAWLEY. The GAM is a similar munition to the JDAM. It also uses GPS and inertial systems. Its capability is very similar, but it is not as flexible in the way we can employ it because the fins that it uses to steer aren't as good as the JDAM, so it has a smaller basket you have to deliver it in, can't achieve the penetration angles that we will be able to achieve with JDAM, and hence won't be as lethal against many targets.

Mr. MCDADE. They are separate tools?

General HAWLEY. It is going to be very expensive. The GAM is purely a test asset. We are buying 28 specifically designed to allow us to test that GATS capability that we are building into the airplane.

We have a capability and we are protecting that capability to buy more GAMs if JDAM slips.

Mr. MCDADE. You really need the two of them?

General HAWLEY. Yes, sir.

Mr. MCDADE. Tell me why.

General HAWLEY. We need a munition to test the airplane capability with. That is the GAM. We need an affordable munition, which is the JDAM, so that we can buy it in large quantities and use on a whole family of airplanes to include the B–2.

GAM is a lot more expensive than JDAM.

Mr. MCDADE. We are looking at the issue of affordability again. What kind of affordability problems are we looking at? How much is the cost of the JDAM? How much per warhead are we talking about?

General HAWLEY. We don't think JDAM will cost more than $40,000 a copy. That source selection is in progress

Mrs. Druyun is very active in that and it looks like it is going to be a good news story. We think it will hold under $40,000 a copy.

We will know soon.

Mr. DICKS. If the gentleman would yield.

Mr. MCDADE. Let me ask. I want to get the cost in the record of the GAM at this point.

Ms. DRUYUN. The cost of the GAM is about $200,000 to $225,000 a piece and the cost of the JDAM—I believe I can say rather safely—will be under $40,000 a piece.

Mr. MCDADE. So you have an enormous cost factor——

General HAWLEY. We want to be able to use a lot of JDAMs because we are going to fly it on a lot of airplanes, not just the Air Force, but Navy as well.

Mr. DICKS. This Committee took the initiative on this last year and the purpose was to get a smart conventional weapon, the B–2, as quickly as possible.

The theory was that if we could get the GATS on first, we would then preserve the option to put GAMs on initially to do the testing and if JDAM wasn't coming at an appropriate pace, we would then buy an additional number of GAMs even though more expensive so that the first six or seven B–2s would have an early conventional capability on the theory that after the success of the 117, that we need to get this capability as quickly as possible.

That is why we pushed to accelerate this. They have said JDAMs will be less expensive because you are buying a whole bunch of them. We don't need to do additional GAMs. We will go with JDAMs unless it slips

We need to get this conventional capability on the B–2 as quickly as possible.

Mr. McDade. Thank you, Norm.

B–2 CLOSE OUT COSTS

Madam Secretary, the fiscal year 1995 procurement request for the B–2 is $459.7 million. Does this year's budget request contain any funding for the close-out of the B–2 production line, either for the prime or any major subcontractor? If so, provide for the record a detailed list of the costs.

Ms. Druyun. We would be happy to do that.

It does contain about $45.8 million for curtailment in the area, beginning close-out, and is associated principally with, I think, two subcontractors.

Mr. McDade. If you will put that in the record.

[The information follows:]

The total curtailment price is $45.8M (for FY95 only) which includes Northrop and its major subcontractors. The subcontractors are Vought, Boeing, Northrop Aircraft Division, Hughes, Northrop Electronics System Division-Rolling Meadows, and Northrop Electronics System Division-Hawthorne. Separate costs of curtailment are not available by subcontractor.

General Hawley. Some of that $45.8 million is for things other than curtailment. There are some tooling modifications in it. I think about $27 million of it is really dedicated to curtailment.

B–2 PRODUCTION LINE

Mr. McDade. There is a lot of conversation about maintaining a warm production line and this committee is deeply interested in what we do about industrial base questions.

The total cost of the proposal in fiscal year 1995 is reportedly $150 million. Is that your understanding of what the costs would be?

General Hawley. Yes, sir. That is our understanding.

Mr. McDade. Have you had an opportunity to look at it seriously so that the estimated costs sound reasonable to you? Are you able to tell that?

General Hawley. No, sir.

The contractor has not provided us the details of his statement.

Mr. McDade. Do you plan to look at that number in the immediate future?

General Hawley. No, sir. We haven't seen the details. We will take a look at it when he gives us the details.

Mr. McDade. We are going to face this problem together as we go through this mark, so we are going to have to have guidance from you about reasonableness of the number, some of the assumptions behind the proposal which you apparently don't have conversation about at the moment?

General Hawley. No, sir.

We have seen gross estimates for the first year and subsequent costs from the contractor, but he hasn't given us a break-out that would allow us to get good insight into accuracy of the figures.

Mr. McDade. We need to have guidance from you as we go through trying to do an exercise using limited resources to figure out where we are going to come down on this.

General Hawley. I can give you information on the status of the shutdown of this program because a lot is already in progress, if you would like——

Mr. McDade. Do that, will you.

[The information follows:]

The status of the B–2 shutdown at the contractors is as follows:

Northrop: The last B–2, Air Vehicle (A/V) 21, is currently in major mate. The special tooling (major assembly jigs and fixtures) for work already completed on this aircraft are being stored in-place on an interim basis.

Boeing: Boeing will ship the last outboard wing section for A/V 21 in May 94. About 90% of all the special tooling and special test equipment located at Boeing has been dispositioned in accordance with curtailment ground rules: one set of tooling retained until 1997. All major assembly jig tools have been moved out of Boeing and into interim storage.

Vought: Vought shipped the last intermediate wing section for A/V 21 this month. About 98% of all the special tooling and special test equipment at Vought has been dispositioned in accordance with curtailment ground rules and is being stored at Vought on an interim basis.

Of the 110 non-build-to-print subcontractors, 8 (or 7%) have completely closed out as of the end of Feb 94; 15 (or 14%) are scheduled to be completely closed out by 31 Mar 94; and the current plan shows 65 (or 59%) of these subcontractors will be closed out by the end of this year. The rest (22) will close out between FY95–98.

General Hawley. For example, the contractor has already shut out 544 purchase orders and closed out 5 suppliers in 1993, 2 years ago. This year in 1994, he will be closing out another 401 purchase orders and 60 more suppliers.

So an awful lot of this operation is industrial capability that is already being shut down.

Mr. McDade. if I were to ask you to give a percentage, can you say it is 30 percent closed out? Is there a way to quantify that for me?

General Hawley. I couldn't give that to you today.

Mr. McDade. Put it in the record, realizing it is an estimated figure. There are so many contractors and subs that the raw number doesn't have a lot of meaning and we need your expert guidance.

[The information follows:]

About 90% of all the special tooling and special test equipment located at Boeing and 98% at Vought has been dispositioned in accordance with curtailment ground rules: one set of tooling retained until 1997.

Of the 110 non-build-to-print subcontractors, 8 (or 7%) have completely closed out as of the end of Feb 94; 15 (or 14%) are scheduled to be completely closed out by 31 Mar 94; and the current plan shows 65 (or 59%) of these subcontractors will be closed out by the end of this year. The rest (22) will close out between FY95–98.

B–2 LINE RESTRUCTURING

Mr. McDade. What would be the total cost of restructuring the B–2 line, assuming funding was in place for fiscal year 1995, total cost restarting the B–2?

General Hawley. I can't do better than Northrop's estimate of $150 million in 1995.

Mr. McDade. Feel free to look at it and if you want to amplify on that, we would appreciate it.

[The information follows:]

According to contractor estimates, approximately $150M of long lead funding would be required in FY95 to support a FY97 production authorization for additional B–2s. The second year of long lead in FY96 would require $500M to $700M prior to initiating production at the rate of two to three air vehicles per year in FY97 at a cost of $1.5B to $2.0B per year. These are unsolicited numbers provided by Northrop. Due to budget constraints, the Air Force has no plans to procure more than 20 operational B–2s.

B–2 DEPOT SUPPORT

Mr. McDADE. Has the Air Force performed any sensitivity analysis on the numbers? I guess you haven't.

General HAWLEY. No.

Mr. McDADE. In the fiscal year 1994 Defense Appropriations Act, the conferees directed that none of the funds available to the Department of the Air Force should be made available to establish or support organic depot maintenance activities for the B–2.

Update the committee as to the current status of the B–2 depot support concept.

General HAWLEY. As you pointed out, we owe you a report by 15 May to give you our depot plan.

Mr. McDADE. That is what we need, another report.

General HAWLEY. Those reports make us do our homework, so they are not all bad.

We are going to provide it by 15 May. We are coordinating that through the building at this time. I think you will see that it provides what we estimate to be the most cost-effective mix of government and contractor-provided support for the airplane.

Mr. McDADE. That is one of the key things we want to get are cost estimates of public versus private.

General HAWLEY. That will be in the report.

Mr. McDADE. General, thank you. Madam Secretary, thank you.

Mr. Chairman, thank you very much.

[CLERK'S NOTE.—Questions submitted by Mr. McDade and the answers thereto follow:]

PRACTICE BOMBS

Question. The Air Force currently does not have a dedicated, low-cost, air delivered laser guided training munition. The U.S. Navy is introducing such a device, the Laser-Guided Training Round, which in its initial use over the past year has been praised by Naval aviators for providing a cost-effective, realistic training option for precision weapons delivery not previously available. The Navy has noted that use of the LGTR has expanded training opportunities (due to not having to use scarce operational assets, either live or inert laser guided bombs) and development of tactics. I understand Air Force Air Combat Command is considering recommending procurement of LGTR for Air Force use, which I would support given its multiple benefits to the operational community. Summarize the Air Force's evaluation of the LGTR to date.

Answer. The Air Force explored the laser guided training round (LGTR) concept in FY91 and did not pursue the concept for the following reasons: high cost relative to the cost of a GBU–10/12, low fidelity when compared with the full scale weapon, and the high number of GBU–10/12s available in the inventory for training.

In today's budget environment, the Air Force inventory of GBU–10/12s is an attractive alternative to the research and development and acquisition costs associated with an LGTR. The LGTR simulates the flight profile of the older GBU–10/12s which are being replaced with newer technology weapons. Because the LGTR is unable to simulate the flight profile of the newer series laser guided weapons, GBU–24/27, it provides little training value for the Air Force's newer weapons. There is already a surplus of GBU–10/12s and the surplus will grow as these new weapons are delivered. The majority of the training to maintain proficiency in delivery of laser guided munitions can be accomplished by use of surplus inventory GBU–10/12s. Therefore, there is no requirement to procure new training rounds for a weapon being replaced. The Air Force emphasizes training with full scale weapons based on the realism they provide.

Question. What action would be needed in fiscal year 1995 to begin Air Force qualification and use of the LGTR? If additional funding is required, please provide details as well as the appropriate program elements and/or line items requiring funding.

Answer. Because the LGTR simulates a GBU–10/12, of which there are large numbers currently in inventory, there is no requirement to procure a training round for a weapon the Air Force is replacing.

F–15 DOWNSIZED TESTER

Question. Last year the Air Force awarded a contract for the F–15 Downsized Tester. Provide a summary of this award, including development and production (both funding and quantities), and contract and delivery milestones.

Answer. The Downsized Tester (DST) contract is currently structured in phases. These phases were set up to take current test stations off-line in an orderly manner. Within the contract there are contract line items to purchase test stations and test program sets (TPS). Also included are line items to support test program set integration, testing, system engineering program management, data, training and warranty. In October 1993 the initial Cost Plus Incentive Fee/Fixed Price Incentive (CPIF/FPI) contract was awarded to Grumman Aerospace Corp of Bethpage, New York for $15.3M to include data and Phase 1 TPS integration. The contract was modified in November by awarding $5.6M for five testers to be delivered in July 94 and used for integration testing. Phases II and III of TPS integration were awarded on 15 Feb 94 for $14.7M in conjunction with an Undefinitized Contractual Action (UCA) to consolidate the TPS development and down-scope the LRU population. Phase IV TPS integration will be exercised in FY97. Phases II and III will enable the Air Force to replace the test capability of the Microwave Test Station (MTS) and the Display Test Station (DTS). Phase IV will allow the Air Force to take Mobile Electronic Test Set (METS) off line thus enabling the remaining LRUs to be completely supported by the DST. The options to procure the remaining 49 DSTs are scheduled to be awarded in Nov 94 for 32 DSTs, November 95 for 5 DSTs, and the final award in Nov 96 for 12 DSTs.

Question. Provide, for fiscal years 1994–1999, a summary of all development and procurement funding and procurement quantities associated with this program. Identify the appropriate procurement and RDT&E line items where such funding is contained.

F–15 DOWNSIZED TESTER

[Dollars in millions]

	Fiscal years					
	1994	1995	1996	1997	1998	1999
RDT&E	0.00	0.00	0.00	0.00	0.00	0.00
3010 (BP 1200)	3.482	41.27	9.076	18.311	0.00	0.00
Testers	0	32	5	12	0	0
TPS	7	49	44	32	0	0

Fund cite information

BPAC, 120000; PE, 000000 (various PEs); MPC, 1313.

Question: Does the fiscal year 1995 request adequately fund this program? If not, describe why and provide a description of the required funding.

Answer: In FY95 the Downsized Tester program will purchase 32 testers and 49 Test Program Sets. There is adequate funding in FY95 to support this procurement.

Question: What is the inventory objective and fielding schedule for the F–15 downsized tester?

Answer: The inventory objective is 61 testers.

DELIVERY/FIELDING SCHEDULE

	FY 94				FY 95				FY 96				FY 97				FY 98			
	Quarter				Quarter				Quarter				Quarter				Quarter			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Quantity	....	....	....	5	....	....	....	7	....	....	3	9	9	9	9	9	1	....	....	....
Total	61	....	....	....	....															

[CLERK'S NOTE.—End of questions submitted by Mr. McDade.]

Mr. MURTHA. Mr. Dicks.

KC–135 REENGINEERING PROGRAM

Mr. DICKS. General and Ms. Druyun, where are we on the KC–135 reengineering program?

General HAWLEY. We have included no funds this year to do any more KC–135 modifications and, basically, the reason is that they are not cost effective enough for us to justify the investment to upgrade the KC–135s to a reconfiguration.

Mr. DICKS. Based on what analysis, General?

General HAWLEY. We have done an effective analysis, cost-effectiveness analysis. Essentially, the cost to modify the Es is about $3.71 billion for the whole fleet, about $26 million a kit. What that gives us is an improvement in operating costs of about half a million dollars a year, and it gives you the capability to offload on your most stressing scenario, about 6,000 pounds more fuel.

And that only occurs if your are in your most stressing scenario. On a lesser scenario, it doesn't buy you anything.

We see it is about a 50-year payback from a cost-effectiveness standpoint, and it has very limited enhancement in terms of the overall operational capabilities of the tanker force.

For those reasons, we have concluded that, given the budget constraints we are under, it is not a good investment to try to continue with modifying all of the Es.

Mr. DICKS. What is your tanker strategy then if it isn't to redo the KC–135? What is it?

General HAWLEY. As you know, we have done a thorough analysis of how to support two MRCs. We have done what we think is a thorough study anyway. It says that we need 549 tankers to do our job in support—

Mr. DICKS. 549 tankers?

General HAWLEY. Yes, sir. And we are a few short of that, but the few short does not include a large number of KC–10s that are slated to provide airlift support rather than tanker capability.

So if we get to the point where we would need all 549 we think we have KC–10s in reserve to fill the gap, and we can do that more effectively than modifying KC–135s. That 549 requirement is driven by peaks and valleys. It depends on how you flow your forces. And because of the way the forces flow you get a couple of big peaks that get 549 as a requirement. We are convinced that we can make those peaks if we need to when we get into that most stressing scenario and avoid the requirement for all those airplanes.

Mr. DICKS. How many did you use in the Gulf?

General HAWLEY. I will provide that for the record, but it was a lot less than 549.

[The information follows:]

Question. How many (tankers) did you use in the Gulf?

Answer. During Operations Desert Shield and Desert Storm, Air Force tanker crews and aircraft conducted the largest, most complex tanker operation since the Vietnam War. The highest tanker commitment level occurred from 1 Feb 91 through 5 March 91 when 262 KC–135s and 46 KC–10s (approximately 45% of the total tanker fleet) operated in support of American and coalition forces.

TANKER ROLE IN AIR OPERATIONS

Mr. DICKS. How many do you use when you are running air operations? Don't you use these tankers to refuel flights?

General HAWLEY. Yes, air. There are three basic missions. One is support of the strategic deterrent force, and the other is to support our mobile forces to enhance our airlift capability and to deploy our force, and third is operational deployment, which we use it to extend the leg itself of aircraft, bombers and fighters.

It can do all three a the same time under the most stressing scenario but not often.

Mr. DICKS. The Navy uses them? The Marines?

General HAWLEY. The Air Force is the single manager for tanker with the exception of some of the C-130 tankers which the Marines and Special Operations forces have inherent in their capability.

The rest are managed by the Air Force, and we provide capability to whoever has a requirement, both Air Force and Navy.

NON-DEVELOPMENTAL AIRLIFT ALTERNATIVE (NDAA)—PROGRAM

Mr. DICKS. Fiscal year 1994 Defense appropriations conferees provided $100 million to initiate a non-developmental airlift alternative program to address current airlift requirement shortfalls and the possible curtailment of the C-17 program—and I would argue as a hedge because of concerns regarding the C-141 program.

In fiscal year 1995, the Department has requested an additional $103.7 million to continue the program. Discuss what some of the key variables and parameters are in shaping the size of alternative airlift fleet.

General HAWLEY. I think the key determinant is how many C-17s we end up with. As I am sure General Fogleman has told you, his view and ours is that we need a core airlifter. The C-17 is the core airlifter of the future. The C-141 is the core airlifter today, the airlifter around which all our customers plan their mobility operations.

The number that we wind up with will be a major factor in not only which kind of NDAA we may need or mix but also how many. So I think that is the key reason. And then there are a whole host of other issues, and Ms. Druyun, I think, is probably the most familiar with this issue and how that is all going to unfold.

Mr. DICKS. All right.

Ms. DRUYUN. I would like to first begin by saying that it became very, very clear to those of us who appeared in the C-17 debate process this fall based on the IDA COEA that the C-17 is really paramount as to how many do you buy versus how many nondevelopmental airplanes do you buy.

If you look at the COEA done by IDA, if we buy only 40 C-17s, the C-5 becomes a very, very strong player.

If we buy more than 40——

Mr. DICKS. How many do we have now?

Ms. DRUYUN. C-5B's we have 50, and C-5——

General HAWLEY. I will get you the number.

[The information follows:]

Currently, there are 50 C-5Bs and 76 C-5As in the Air Force Inventory.

Mr. DICKS. 109—some number like that—total C–5s?

Ms. DRUYUN. That is close, yes.

It is clear, that if you buy more than 40 C–17s, an upwards of 80 C–17s, that you get a different sort of decision than one could make considering 747s versus C–130s versus MD–11s. I would be happy off the record or at your convenience, sir, to actually sit down and review that COEA with you so you could see the wide spectrum of decisions that possibly could be made based first on the number of C–17s that one buys.

If we only buy 40 C–17s—and right now Mr. Deutch has, basically, said that the C–17 is on its probationary period, and we will buy no more than 40. He will make the final decision based on what happens at the next DAB, which is in November, 1995, as to whether we buy more than 40.

Mr. MURTHA. I don't think the Defense Department or the Air Force can be sufficiently clear that this is a competition, because our staff reports back to us that there is no question in their minds they are going to win this thing. I think that is a disservice——

Mr. DICKS. Who is this?

Mr. MURTHA. Out staff people are saying that McDonnell Douglas is not taking seriously the C–17 probation period mandated by the Defense Department. I think you have to make sure that somebody in your administration makes it clear that the company must perform adequately if we are to consider requiring more C–17s.

Ms. DRUYUN. I have made it very clear to Mr. McDonnell that this is a competition coming between NDAA versus C–17. Secretary Widnall chaired a meeting, and that was one of the items we discussed.

Mr. MURTHA. We were there——

Ms. DRUYUN. I met with them a week ago Monday. That was the matter. I think it is very, very clear the way we have set out that strategy that it is an integrated strategy. We will put out a solicitation for nondevelopment airlift competition, and, at the same time, I will put out another RFP that goes to McDonnell, and I am looking at firm, fixed prices for at least three lots and not to exceeds for at least three additional lots.

You can't make this a more live competition.

It will then be fed into a COEA, and we will be looking at the utilization rates, the scenarios set up regarding the wartime scenario, the peacetime scenario.

Each contractor will offer his solution to that. That will be fed into the COEA. We will have two clear decisions to make come November, 1995. One, has McDonnell Douglas indeed passed the milestone criteria that will be established? And that criteria is being finalized and, hopefully, will be approved around the May, 1994, time frame.

Have they passed that criteria and included in that the RM&A demonstration that will take place sometime in the June-July-August time frame of 1995. That will be the first part of the decision.

The second part will be, if they passed it, how many C–17s should we buy and from there to look at the non-developmental airlift competition and see how that should be supplemented. I believe it is absolutely essential——

Yesterday we said that one of the biggest challenges facing us in C–17 was bringing down the cost of that weapon system. The best thing today that, as far as I am concerned, is to have head-to-head competition and force them in a competitive environment to really get on a very steep learning curve and build the efficiencies that they need to build in to make that learning curve.

The point I made to Mr. McDonnell Monday is you have to make those investments now. You can't sit back and wait or you will end up being the big loser in the strategy that we have set up.

His response was that he clearly understood that and was looking at a host of investments they will be making to bring down the cost of the system. This is best value for the taxpayer and puts McDonnell on notice that it has to get its act together. It has to learn how to produce airplanes that meet the spec requirement and that are cost-effective. And that is the way we have designed that strategy.

C–141 AIRCRAFT

Mr. DICKS. That is fine as it relates to the C–17, but that is only half of the story. The other half is the condition of the C–141s.

General Hoar was before this Committee a week ago saying that airlift is the Achilles heel, that we don't have airlift that we can count on. You have set up a very wonderful deliberate strategy which I understand as it relates to the C–17, but we still have a problem with the C–141s.

What are we doing about that? Why is there $107.3 million in this budget for procurement when you have no intention of doing anything in the next fiscal years but spending $20 million?

Ms. DRUYUN. We will begin around May with what I term risk reduction studies.

Mr. DICKS. When General Hoar says we have an airlift crisis, this is the slowest thinking since the F–22. With all due respect, this doesn't look like any kind of a program that is going to get us additional airlift capability as fast as we could get it.

We know about the 747. We know about the C–5. Why do we have to have a two-year program?

Ms. DRUYUN. I think it is important to point out——

Mr. DICKS. You have answered that your strategy works well for the C–17. I want to know about the C–141. You have answered that your strategy works well for the C–17 because it produces a competition. Have you got the problems on the C–141 taken care of?

This has been the most immaculate recovery I have ever seen. The Air Force tells us the C–141 is a disaster, flying with restrictions. What is the mission rate capability——

General HAWLEY. We have well over 130 in the fleet flying today.

Ms. DRUYUN. Unrestricted.

Mr. DICKS. A few weeks ago, it was 57.

Ms. DRUYUN. As of last Friday, it was 130, and there are no restrictions.

The remaining fleet will be corrected and flying by the end of December. That is something that we track closely in my organization with General Fogleman.

Mr. DICKS. Why does General Hoar think you have an airlift crisis?

General HAWLEY. Part of General Hoar's problem is one of scheduling priorities and how the JCS allocates the peacetime airlift force. He, as all CINCS, never gets enough airlift——

Mr. DICKS. He was talking about Somalia when he said it was almost brought to a halt because you couldn't perform the mission.

General HAWLEY. I don't think there are any airlift shortfalls in Somalia other than a restriction on the air fields that we had available which limited our ability to get airplanes in. Which is exactly the problem the C–17 is designed to solve, because it will be able to use that ramp capability more effectively than any current airlifter.

Mr. DICKS. I asked General Fogleman how much will you need to finance this program. $20 million. Why do we have $107.3 million in this budget? What was the Air Force thinking about earlier that got them to put that kind of money in the budget if they don't need it?

Ms. DRUYUN. We propose, come November, 1995, to make that decision and the money that will be left over from the 1994 funds and from the 1995 will enable us to at least award a single aircraft come November of 1995.

The way we have structured our 1996 budget, we have approximately $911 million set aside for purchase of NDAA aircraft.

Mr. MURTHA. Mr. Young.

EASTERN-WESTERN RANGE IMPROVEMENTS AND MODERNIZATION PROGRAM

Mr. YOUNG. Thank you very much, Mr. Chairman.

Good morning to our witnesses. I would like to ask about the Eastern-Western Range Improvements and Modernization Program. I notice that you have a request for $116.6 million for improvement, and I wonder if you would discuss that for a few minutes and tell us what you are planning to do there, what some of the problems are, what the improvements are going to be.

General HAWLEY. Our East and West Range Improvements are designed to upgrade a very old and expensive system for supporting those tests both on the east and west coast. They have been in place a long time. They are subject to some very severe environmental conditions, and they are very expensive to operate.

So what we hope to do, and we are not going to do it as fast as we like with that amount of money, but we want to incrementally improve and modernize those test assets so they will be reliable and cheaper to operate. Reliability is very important. Systems that they support cost an enormous amount of money, and it is conceivable that we could wind up having to destroy a launch because we weren't able to monitor the telemetry properly to make sure the missile was operating the way it should.

So this is a very important program, and we are proceeding in a deliberate way to get these systems up to snuff to support our users.

Mr. YOUNG. The justification book mentions that current instrumentation is obsolete and manpower-intensive. Will you be replacing instrumentation?

General HAWLEY. Exactly.

Mr. YOUNG. Will you be upgrading the capability?

General HAWLEY. Yes. You are talking radars, telemetry, communications, the host of capabilities that it takes to assure our ability to monitor and communicate effectively with launch control centers when we do this work.

Mr. YOUNG. But, General, as you replace obsolete equipment you will be replacing it not with similar equipment but updated, state-of-the-art?

General HAWLEY. That is correct.

Mr. YOUNG. If the 116 is just beginning the program, what do you think the program will cost ultimately?

General HAWLEY. I don't have the total number with me. I can provide that for the record. It is a multi-year program.

[The information follows:]

The Range Standardization and Automation (RSA) program began upgrading the ranges in FY 1993. From FY 1993 through FY 2003, when we expect to complete RSA, the total RSA procurement and RDT&E investment will be $954M. This includes only the RSA program; it does not include range sustainment, which has an ongoing funding level to maintain the reliability and supportability of existing operational range assets while RSA is being brought on-line, and to adapt selected existing assets into the RSA architecture.

Mr. YOUNG. Do you have a projection on how much you will save in manpower and operating costs?

General HAWLEY. I can put that in the record.

[The information follows:]

Current equipment will be largely replaced by the Range Standardization and Automation (RSA) program. A cost analysis completed by Air Force Space Command personnel has shown the savings expected from implementation of RSA. When fully implemented, RSA will ultimately save an estimated 972 man-years per year due to modern, more efficient, less manpower intensive systems.

An estimated total of $592M in cumulative operations cost savings at both ranges between 1993 and 2005 is expected through completion of RSA implementation. Annual savings begin in 2003 and continue each year thereafter, inflated upward each year from a base of $107M in 2003. This includes direct savings resulting from implementing the more efficient RSA systems, as well as cost avoidance from not having to continue extensive maintenance and repair on the existing range systems.

JOINT PRIMARY AIRCRAFT TRAINING SYSTEM (JPATS)

Mr. YOUNG. I want to ask something about training. You are reviewing now for the JPATS program a number of different aircraft. My understanding is you have budgeted $278.4 million this year for trainer aircraft. According to your justification, you are planning to procure three aircraft, and you have budgeted $123.3 million to begin that procurement. Are those figures accurate?

Ms. DRUYUN. Yes.

Mr. YOUNG. In the JPATS program there are four or five or six competing aircraft?

Ms. DRUYUN. There are upwards of potentially seven.

Mr. YOUNG. When you buy the three aircraft will they be all three of the same aircraft or will they be one each of a different type of the aircraft?

General HAWLEY. Those are going to be the same airplanes which will be the product of a source selection.

Mr. YOUNG. So you will buy the three after you have selected your source?

Ms. DRUYUN. That is correct.

Mr. YOUNG. Now, JPATS as a major part of the training master plan is supposed to incorporate as much advanced training as possible. Am I correct in the assumption?

General HAWLEY. Well, I guess I would hesitate to say as much as possible. We are buying the airplane to meet the user requirement, and we want to make sure we meet that requirement with the most cost-effective system.

Mr. YOUNG. Well, in reviewing this program, I get the feeling that to do what you want JPATS to do would require a fairly sophisticated aircraft, but it looks like from the RFP that you are, basically, replacing the T–37 and the T–34 without optimizing the effectiveness of the training system.

Tell me if I am wrong.

General HAWLEY. It will replace those airplanes. But one of the factors that will be considered as we evaluate all the candidates will be how effective and particularly cost-effective they will be in producing the final product, which is a trained pilot.

Ms. DRUYUN. But as a part of that whole source selection it is not only the aircraft but, more importantly, it is a new ground-based training system with the simulators to support it. It is a whole system that we are buying, not just aircraft.

Mr. YOUNG. I understand that, but I have been flying for a long time, and I look at the RFP as a pilot would. It doesn't look like you are really advancing the sophistication of the trainer aircraft to the extent that you might.

Ms. DRUYUN. As much as possible. The way we have tried to design this to get best value is to, basically, go with nondevelopmental aircraft. And it is interesting when I look at the range of candidate aircraft, I have some that truly are nondevelopmental and, to the other extent, where one or two candidates in my opinion represents a major developmental work.

We are trying to structure the competition to be full and open. We have, basically, followed the nondevelopmental rules in setting it up, as well as looking at the requirement. It is an environmental requirement, a Navy and Air Force requirement. We are working the requirements together.

General HAWLEY. I think you are concerned we won't consider how much training one of these airplanes can pack into an hour of flying time. Some of them can get more out of an hour than another. That is a factor. And one of the considerations when we select our next trainer will be how much training we can get out of it in a given hour of flying time because we do have a restricted number of hours available to train our people, and we want the best possible pilot when we get to the end of that process.

Mr. YOUNG. I am glad to hear that because my interest is providing the pilots with the best training that they can get, and the aircraft and the simulator and whole system has a lot to do with that.

Your RFP doesn't look like you are really pushing the state of the art, that you are getting another trainer without considering additional advantages that might be available.

I have read that the Navy plans to offload some of the training that they originally planned for the T–45 to the JPATS aircraft.

Does the JPATS' RFP strategy consider this factor in the evaluation or selection of the best value trainer aircraft?

General HAWLEY. It is considered. That restructure of the Navy flying training curriculum has been considered in the analyses that have gone into this. Yes, sir.

It is true they are planning on changing the mix of their training program.

Mr. YOUNG. The Navy uses the JPATS aircraft. It will not be a Tailhook-type airplane. They won't be required to beef up the airplane for that type of training; am I correct?

General HAWLEY. No, sir. This is their primary trainer, so it is before they get to the point of training people how to land on boats.

Mr. YOUNG. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Visclosky?

FIXED PRICE ON C–17 PRODUCTION LOTS

Mr. VISCLOSKY. You mentioned that you asked McDonnell Douglas for a firm fixed price on production lots. On what rate are you asking them to base that price?

Ms. DRUYUN. We will be asking McDonnell Douglas at the same time we put the RFP out for the non-developmental program. We are conducting a number of acquisition strategy sessions, the first one a week ago.

We have another coming up next week. I could better answer that in June. I am trying to lay out some flexibility in terms of how the company would price out those quantities so that that could range from one year from eight to fifteen.

We are looking at what is the optimum mix that one can lay out to get what I would term varied pricing per year to have a bit of flexibility in making that decision on a yearly basis.

Mr. VISCLOSKY. The Department has no rate of production in mind? The company was in my office within the last seven days and they were talking about getting the average cost of that plane down.

I asked them what rate of production are you talking about. They were talking about 8 to 12; closer to 12.

Ms. DRUYUN. If you were to look at the DSB recommendations, they have, I think, recommended a ramp rate of something like 8, 12, and 15.

We will be working with some of the former members of the DSB to try to strike that optimum arrangement.

Mr. VISCLOSKY. The Department is asking for six this year?

Ms. DRUYUN. That is correct.

Mr. VISCLOSKY. Will the Department ask them for a cost on six aircraft at an annual rate?

Ms. DRUYUN. I think the quantity will be higher than that, sir.

C–17 SETTLEMENT COSTS

Mr. VISCLOSKY. You also talked about management's investment in the procurement budget. You asked for $178 million of taxpayer money for the C–17 as part of the settlement. There are a number of components in the settlement and they total an expense to the government of $348 million.

Could you tell the committee how your request for $178 million is spread among those different programs in the settlement?

Ms. DRUYUN. Yes.

The $178 million is contained in the 3010 line item and basically it is looking at $20 million for computer aided design/computer aided manufacturing system (CAD/CAMS), $15 million for a management information system, $2.5 million for an advanced quality system and $140.5 million for claims.

Mr. VISCLOSKY. For——

Ms. DRUYUN. Claims.

COMPUTER AIDED DESIGN/COMPUTER AIDED MANUFACTURING SYSTEM (CAD/CAMS)

Mr. VISCLOSKY. Why do you think the government has to pay additional costs associated with the implementation of computer-aided design and manufacturing systems as well as the new management information system at the contractor facility? Don't you believe that a system like that, under good management practices, should be in place today at McDonnell Douglas?

Ms. DRUYUN. I was surprised when the DSB reported back that they were not using CAD/CAMS in building the C–17. Frankly, that was a surprise to me. My—I have been in my position for 12 months, 13 months now, and that was the first time looking at the DSB finding that I became aware of the fact that they were not using CAD/CAMS.

I think most modern manufacturing facilities—I don't care whether it is an aircraft or a missile, use a CAD/CAMS.

I can't tell you the reason McDonnell Douglas had not invested in CAD/CAMS. The investment that we are talking about making will not pay for a full-up CAD/CAM system. That runs in excess of $200 million.

The DSB viewed this as some seed corn for the future changes and modifications and design changes that would be made to this aircraft and you would begin to create that CAD/CAM data base. McDonnell Douglas is making an identical investment and it would be our belief that eventually the whole system would be reverted over to a CAD/CAM system.

C–17 CAD/CAMS CAPABILITIES

Mr. DICKS. Would you yield for a brief question? What do you think it is going to do for you at that point? It is fine if you have CAD/CAM capability when you start the program. When you come in this late in the program, what can this capability give you at this time?

Ms. DRUYUN. It is never too late. When you look at the engineering changed order process, right now we are experiencing about a thousand change orders per month. That rate will probably continue at a thousand per month until we have completed testing, and there will continue to be changes made to that aircraft for producibility, for example.

Producibility is going to be a very significant item in the future, and I think that is why the DSB thought it was a very worthwhile investment to make. It was their belief that over time the whole aircraft would be, all the designs would eventually be computerized.

General HAWLEY. This is part of the overall agreement that involves the disposition of a lot of claims both by the contractor and by the government that are allowing us to get back to a teamwork relationship with the contractor. I think it is very important that we continue to look at this as a package because if we start taking it apart, there won't be an agreement, and we will lose the teamwork relationship and the ability to recover this program which, as you point out, all of our customers have said they need.

Everybody comes in and talks about the requirement for airlift, and most people talk specifically about the requirement for the C–17 program to recover and produce this Nation's core airlifter. So it is very important that this package be approved and be funded so that we can implement the agreement. We cannot implement it without the resources and we can't afford for us to restore an adversial relationship with the contractor that puts us back at loggerheads.

Mr. VISCLOSKY. Besides teamwork, what other material advantage are we going to see in the aircraft, the first 40?

Ms. DRUYUN. If you look at the various areas covered in the settlement agreement first is in the area of claims and disputes.

McDonnell Douglas has filed and, I believe, certified approximately $450 million in claims and was working on the DSB estimated from a $1 to $2 billion delay and disruption claim. The activity within the government side within the SPO as well as within the contractor sides because of all these claims was a terrible adversarial relationship and just in the contracting organization itself, which has a to deal with McDonnell Douglas on a daily basis, I was told by one of the DSB members that about 50 percent of the day was taken up with depositions of the various contracting officers, the pricing people, so they could build their case for their additional claims.

It is awfully difficult to try to run an organization when you have a large part of your resources sitting with lawyers, giving them depositions. You have no choice but to give a deposition. That is one aspect of the claim.

There is a whole series of areas for spec relief where the government will revise specifications, we are going to waive claims for late deliveries. I think that has been very carefully orchestrated and that we understand very clearly where the spec relief should be granted based on the updated operational requirement that we see coming out of the user. There are a number of other areas, sustaining engineering, that has been, I think, an ongoing, raging battle for a number of years as to how much sustaining engineering should have been charged the EMD contract versus lot one and lot two. There has been a methodology reached, and this was a difficult thing to be reached between the DCAA and the DPRO. We were able to finally settle the issue of flight test extension and, more importantly, what that ought to cost.

C–17 FLIGHT TEST

Mr. VISCLOSKY. I didn't know until the settlement that there was a dispute over flight testing.

Ms. DRUYUN. There was. It was very clear that the flight test had to be extended. The SPO had agreed to 135 months, but were not able to agree, but were not able to agree how much of that should be paid by the government versus the contractor.

Mr. VISCLOSKY. The split 50–50 is not for the additional 17 months, but goes back to the 80 months?

General HAWLEY. That is correct. The dispute was, who caused this requirement for additional testing and the omnibus settled that and said, we will split it 50–50.

You asked, what it he impact on the first 40 airplanes, maybe we will see a more effective test program and quicker fixes to the problems identified during the test, and we are already seeing much more successful delivery of airplanes according to schedule.

The toughest airplane to deliver will be P–11, which incorporates all the fixes for the wings. McDonnell Douglas took the bit in their teeth in order to get this airplane delivered on schedule. They are motivating their work force, spending a lot of time on the plant floor to get them committed to this program. They continue to track P–11 will deliver as close to schedule as any airplane they have delivered in the last six months.

STATUS OF C–17 SETTLEMENT WITH MC DONNELL DOUGLAS

Ms. DRUYUN. I think for the first time McDonnell Douglas is focused in on the problems, what does it take to make this an effective system. Too much of their focus in the past was on the issue of claims and trying to get that issue resolved.

I can give you some of my personal experience from having negotiated claims in TSSAM. I led a team in the 1990 time frame to restructure that program and settle $1.5 billion of claims. I spent 18 months doing that and put together 2,500 pages of documentation to show that it was fair and reasonable for the government to pay $747 million of that $1.5 billion claim.

When you find yourself in an adversarial position with a contractor and when you find yourself looking at a billion-dollar-plus worth to claims, what happens is that everyone becomes, unfortunately, totally misfocused in their attention on the program and suddenly focuses on that which is not important in my opinion, focused on the claim not in successfully accomplishing the program.

From the two CEO meetings I have attended and cochaired, I can tell you that McDonnell Douglas is focused in on the real issues that it takes to get through the DAB process come November 1995 and half a successful RM&A demonstration and meets the requirements laid out in that contract. That was not the case six months ago before the omnibus settlement agreement was laid out to Mr. Deutch.

Mr. VISCLOSKY. I am looking for a characterization of the settlement agreement and from the conversation we have had today, it is not so much for improvement of the 40 planes, you have talked about improvement as far as delivery time; if we are going to change specs, I assume that will inure to the company benefits. Waiving claims is going to inure to the company's benefit, not the government. The company figured this out, The flight test program going back to 80 months, now we are at 152.

I can't tell you how many people, how long, for 12 months said, we will hang our hat on this new flight test program. This is our third flight test, everything is fine. The points are fine, and now the government is going to be out another 61.5 million bucks.

If the Chair would permit me one or two more questions——

Mr. MURTHA. If you would yield on that point, we still don't believe that this company is not going around the Air Force. It is typical procedure that companies follow in order to get reimbursement. We think they have pulled the wool over the eyes of the Air Force knowingly or unknowingly. We have seen it in this committee.

The Secretary of Defense assured us the A–12 program was right on line, and a month later he cancelled it.

We have been watching this C–17 program for years. The Air Force was responsible for attempting to kill it. It was their problem. They wanted to build the B–1.

We do not have confidence that they are telling you the facts and they are not just trying to be reimbursed. They should have been paying for manufacturing improvements in the first place, and we are not pleased about the fact that they continually get reimbursed for things that they should have been paying for in the first place.

Ms. DRUYUN. I think Mr. Deutch, because of all those types of issues, decided to establish a separate organization using the Defense Science Board to investigate this and to come back and make recommendations to him.

If you look at the individuals that elected to put on that special activity to look at what we could do to try to solve some of the C–17 problems, I can tell from my personal experience a situation is never black and white. I wish it were.

I think the DSB firmly believes that the omnibus settlement they recommended to Mr. Deutch is the best thing for this program to get it back on track and to get the contractor refocused on what the issues are and solving the issues.

Looking at the metrics on a monthly basis, we worked this with the DPRO; this is not something that we do in isolation, and we worked this with the OSD staff, that the contractor is focused in on the right problems and we are tracking those on a monthly basis at my level. PEO is tracking those on a daily basis at this level.

C–17 NEGOTIATIONS

Mr. VISCLOSKY. How much time does the Air Force spend negotiating with the company on the next lot of planes above the 40?

Ms. DRUYUN. I wouldn't want to estimate that. Basically, the omnibus settlement will wipe out all claims, including the potential claims that would have been filed——

Mr. VISCLOSKY. Is the Air Force negotiating with the company as to the parameters of the next lot of planes over 40?

General HAWLEY. No, sir. We will put out an RFP in Spring of 1995, and that will ask them to bid just as well as other contractors to bid.

Mr. VISCLOSKY. There have been no negotiations between the Department, the Air Force, and the company about purchasing planes 41 through whatever, the next lot?

Ms. DRUYUN. No, sir, not that I am aware of.

Mr. VISCLOSKY. Could you check?

Ms. DRUYUN. I will double-check, but I believe the answer will be no.

[The information follows:]

The Air Force has not negotiated with the contractor regarding any aircraft past P–32 (the last aircraft in the FY95, Lot VII buy). Negotiations for procurement of the FY94 buy were completed in March for Lot VI (P–21—P–26); however, contract award is delayed pending satisfaction of congressional restrictions on obligating funds for more than four aircraft. The advance procurement contract for Lot VII (P–27—P–32) was awarded on 1 Apr 94. The full production contract for Lot VII won't be negotiated until this fall with contract award projected for Nov 94. Lot VIII (P–33—P–40) advance procurement contract award is projected for 1st quarter FY95 and negotiations won't begin until summer 1995. No negotiations have been conducted on aircraft beyond P–40 until the Milestone IIIB decisions are finalized.

Ms. DRUYUN. We have been negotiating with the company for the follow-on lot buy which is part of your normal base—we have been negotiating with the company for lot six, which is the fiscal year 1994 buy of six aircraft. That is under the 40 ceiling.

Mr. DICKS. 1995 is under the 40 ceiling?

Ms. DRUYUN. That is correct.

Mr. DICKS. When do we get to 40?

Mr. VISCLOSKY. 1995?

Ms. DRUYUN. No, I believe it will be 1996.

General HAWLEY. The 1996 budget will buy the fortieth airplane.

AVERAGE FLY-AWAY UNIT COSTS FOR C–17

Mr. VISCLOSKY. The average recurring fly-away unit cost for the C–17 in fiscal year 1995 is $327 million. This is the third consecutive annual increase in the unit cost of the plane.

Why?

My understanding is the price should be going down. This is the third year in a row they have gone up.

General HAWLEY. Essentially, the continuing increase in the per-unit cost is because the total buy keeps going down and we keep restructuring the program.

Ms. DRUYUN. I track it differently.

If you were to go back and look at lots one and two and go down to lot five, there are differences between lot one and lot two because of contractor-furnished equipment versus government-furnished equipment.

But when you try to put it on an apples-and-apples basis, my data shows that the first two aircraft, which was under lot one, cost at completion in 1994 dollars $399.8 million, and lot five, which was for six aircraft, our estimate at completion is $230.9 million.

It is my belief and understanding that lot six will probably be flat. I don't think that they have finally settled the lot six price. I think they are very, very close to it, but I understand it will probably be between the $230 and $240 million range for six aircraft. The reasons for that, as best I can understand them, are that many—all of the fixes that have been identified to date obviously will be incorporated into the lot six buy, and I have asked to go back and get firm data to understand where we are in the learning curve and better understand how we can bring that down.

McDonnell Douglas is also making a number of investments in terms of productivity enhancement which I believe will, if we were to buy the full 120 units, will bring down some significant reductions in the unit cost of that aircraft. But I would be happy to supply for the record the data that we track regarding the estimates at completion for each of the lot prices; putting it in fiscal year 1994 dollars, you can have a more apples-and-apples comparison.

Mr. VISCLOSKY. I would appreciate that.

[The information follows:]

The recurring unit flyaway cost of the C–17 lot buys for FY93 through FY95, as reflected in the FY95 President's Budget documentation, shows an increasing trend when comparing the costs stated in then year, or inflated, dollars. However, after removing the effects of inflation by converting all costs to constant FY95 dollars, and deducting Engineering Change Order (ECO) costs, the estimates of average unit cost of the air vehicle in those lots are in fact decreasing. ECO costs were deducted to make the comparison because FY94 ECO funds were significantly reduced to accommodate the reduction in the C–17 appropriation from the FY94 budget request.

[Fiscal year 1995 dollars in millions]

	Fiscal year—		
	1993	1994	1995
Recurring Unit Flyaway Cost, less ECO	$309.2	$299.4	$284.8
Quantity	6	6	6

These unit costs do not reflect any cost savings resulting from productivity investments currently budgeted in the FY95 request or the contractor's potential $100M of investments required by the OSD/McDonnell Douglas settlement.

Mr. VISCLOSKY. The final objection I would make is as the Air Force and Department and company work through this and as they come back to our committee and talk about cost estimates, I would beg you to be realistic as to a production rate. I majored in accounting. I know fundamentally the differences between fixed and variable costs. I understand the theory, subscribe to it that if you can go eight instead of four, it will cost less to do it.

On the other hand, we had testimony yesterday about ballistic missile defense, you have two services that are in competition for a whole array of systems coming in. It would be great to say we are going to buy eight to twelve of these a year if it is a perfect plane.

I think the Air Force has to be realistic when you come back here, because we are going to ask what realistic rate of production are you basing this on.

Thank you, Mr. Chairman.

Mr. MURTHA. The procurement dollar is coming down. We estimate the shortfall will be closer to $50 billion in the five year defense plan. So we see a problem down the road in modifying these programs.

Mr. Darden.

MODERNIZATION OF THE C–130 FLEET

Mr. DARDEN. Thank you, Mr. Chairman. We are glad to have you back today. First of all, I dropped out of this debate between the C–5 and the C–17 back around 1987 after a few unsuccessful forays into it just for the sheer hopelessness of it, and here we are back again, continuing with some problems which I think have no solution. I begin to feel that way about it.

I appreciate your forceful response to Mr. Dicks about dealing with McDonnell Douglas, but the problem appears to me to be, over the years, that the contractor hasn't taken the Air Force seriously, or the Congress, because they figure that we are in so deep, so much involved in it, that they will accept our reprimands and appear to be contrite, apologetic and go off.

I hope maybe we have gotten their attention this time, but I think part of it is the attitude has been that we, the Congress or the Department, don't have any choice. I appreciate your spirited response to getting the contractor's attention. If you do, you will be the first person in something like 15 years who has gotten his attention.

So I wish you well and say, more power to you.

My only question this morning, I guess, for the panel is—incidentally, when I pulled out of the C–17, C–5, I decided I would do something more doable, trying to help produce things that we are already producing—those would be the 130s. What is the current Air Force position now with regard to the requirement to modernize the C–130 fleet?

General HAWLEY. We began a gradual modernization of our tactical airlift fleet beginning with our 1992 program. We bought eight airplanes in 1992 and 1993. We intended to continue that program for quite some time and gradually upgrade the fleet.

We lost support for the program in our 1994 budget and, hence, did not submit a request this year.

Mr. DARDEN. At the OSD level?

General HAWLEY. Yes, sir. Within the DOD we lost support to continue the gradual upgrade, so we did not submit it with the 1995 budget; and that is why we have no funds in it for tactical airlift this year.

TACTICAL AIRLIFT REQUIREMENTS

Mr. DARDEN. There is discussion about the Air Force staying in the tactical air business, or does that become a Reserve mission.

Could you comment on the need for tactical airlift to remain an active Air Force mission?

General HAWLEY. I wish I had my operator friend here to address this.

It is essential that this mission continue to be shared between the Active and Reserve components. We have day-to-day missions that must be carried out all over the world. It is a primary agent of our policy in Bosnia and Herzegovina, it supported our efforts in Somalia long before anybody cared much about Somalia. It is a primary leg of implementing our Nation's national security policy.

Many of those missions must be carried out by the Active force, and it is essential that we continue to keep a substantial share of that mission in the Active force. At the same time, when we go to war, the requirement for this kind of tactical mobility escalates dramatically, and at the same time we need mobilization capability to bring the guard and Reserve aboard to provide the additional capability that we need when we are involved in contingency.

Mr. DARDEN. Mr. Chairman, as you know, we tend to focus on what is wrong and what the problems are, which is a part of the hearing, but it was very telling to Members of the subcommittee when we were at Rhein-Main Air Base, and we saw that operation going on. It is truly remarkable.

Regrettably, most of that mission was being conducted, was it not, by Guard and Reserve forces?

General HAWLEY. It is a great success story, a shared mission with both Active and Reserve units appearing. It is a great tribute to our Guard and Reserve that they are able to participate in these missions, but it doesn't obviate the need for a robust Active component, not only to do the job day to day and in those contingencies where we can't mobilize, but also to provide that management base where we do the future modification work designing future mods primarily in the Active force, we build training programs in the Active force, do the overhead work so that the Guard and Reserve can continue to be a very cost-effective element of our total force.

Mr. DARDEN. Was your failure to request aircraft from the tactical airlift side solely due to the fact that you were shot down the year before? The requirement is there, you maintain?

General HAWLEY. Yes, sir. We continue to support that program we began in 1992 of gradually modernizing the Active tactical airlift force.

Mr. DARDEN. Does that include going into the C–130J as well?

General HAWLEY. We do not propose that. We have looked at the J, and it has advantages and would warrant a good look.

Ms. DRUYUN. Particularly if it could be sold to us at the same price as the H model.

Mr. DARDEN. We are stalled because of an impasse between OSD and the Air Force?

General HAWLEY. I think it is fair to say, we couldn't fit it into the 1995 budget, and one of the reasons it didn't fit is because we weren't sure we could keep the money.

Mr. DARDEN. You will lose the amount of money in your total request; is that correct?

General HAWLEY. That is correct.

Mr. MURTHA. General Babbitt is sitting back in his new uniform. We haven't gotten to him, but we have a number of questions on the other programs that he has been involved in. If you would answer those for the record.

Any other questions?

Mr. DICKS. Mr. Chairman.

Mr. MURTHA. Mr. Dicks.

C–17 CONFIGURATION

Mr. DICKS. Let me ask you about—we are told that because of the production problems on C–17 that the first twelve C–17 aircraft are not of a common configuration. Now to accurately measure the reliability of any system, the test articles have to be as close to uniform configuration as possible for accurate test results.

How is the Air Force managing this problem with regard to the first C–17 aircraft?

General Hawley. In the testing, we have modified some of the test airplanes so that they are representative of the final production airplane, and I think it is P–11 will be the first production representative airframe and that should be delivered within the next month. We will then——

Mr. DICKS. That is the eleventh airplane?

General HAWLEY. Eleventh production airplane, but counting the test articles. We will then go back and retrofit the remaining production airplanes to achieve that common configuration.

Mr. DICKS. The first ten?

General HAWLEY. The first ten airplanes.

Mr. DICKS. Is this a problem?

If you are going to be using these airplanes to do the RM&A evaluation, this big evaluation, how can you do that when you have planes that are of a different configuration?

General HAWLEY. You want to limit the number of different configurations you have, and our plan is to limit the aircraft involved in the RM&A so that we have only two different configurations involved and the operator thinks that is acceptable, that he can handle those differences if there are only two different configurations.

C–17 EVALUATION RISK

Mr. DICKS. Recent performance measures of the C–17 aircraft already delivered to Charleston indicate that much reliability growth needs to occur before the aircraft can enter the RM&A evaluation with a reasonable chance of success.

Given this and the fact that significant modification work remains to be completed to bring the twelve aircraft to a common configuration, do you view the current schedule of starting the RM&A evaluation in July of 1995 as high risk?

General HAWLEY. I think we would be a fool not to say there is some risk involved in this effort, but at the same time, I think it is safe to say that there is a lot of attention being focused on making sure that we are prepared for the RM&A evaluation; and of course, if necessary, we will slip it. We won't enter the RM&A when we aren't ready.

The objective for this is July, and we are making every effort to conduct it at that time. If necessary, we can slip it a month or so as long as we get it done before the milestone 3B.

Mr. DICKS. That means that the DAB in November 1995 could be slipped as well?

Ms. DRUYUN. No. The DAB is a date etched in concrete.

General HAWLEY. We will get the RM&A done prior to the DAB and get the results available for analysis prior to the DAB.

Ms. DRUYUN. I think the DSB, in looking at the issue and in talking to some of the individual members of the DSB—when we tried to do that RM&A demonstration in the February or March time frame, it was a high risk, but I believe that looking at the June–July time frame, more the July time frame, is probably not more than a moderate risk.

I have to tell you that we have spent—particularly our program director has spent a tremendous amount of time with McDonnell Douglas going down to the seventh level of indenture of a plan of what it is going to take to get us to that point of being able to do that demonstration in the July 1995 time frame. So there is a tremendous amount of work that has been done by the government as well as McDonnell Douglas, and that is a subject matter that I look at on a monthly basis, and it certainly is a subject matter that we discussed with the CEO last month and will continue to be at the top of the list.

STATUS OF NONGOVERNMENTAL AIRCRAFT PROGRAM

Mr. DICKS. The Committee has been informed that the Air Force has yet to obligate $20 million released by OSD for the nongovernmental aircraft program for the initial round of trade studies. Is this accurate, and if so, what is the reason for the delay?

Ms. DRUYUN. It is an accurate statement. I believe that we will be on contract by the May time frame. The reason the money was released by OSD, it was put on hold by our financial management community because a legal issue arose as to whether or not I could use a procurement R&D-like announcement to solicit the proposals from industry and get on contract.

I am told that that issue has been resolved. We will be allowed to use a PRD-like announcement and, therefore, I feel confident we will be on contract come May.

Mr. DICKS. Given the amount of studying the Air Force proposes to complete prior to a procurement decision, can the fiscal year 1994 and 1995 appropriations be obligated?

Ms. DRUYUN. What is left of the fiscal year 1994 obligations and what we have asked for in 1995 will be something that we can obligate come November of 1995 when that integrated decision is made.

Mr. DICKS. That is when it will be obligated?

Ms. DRUYUN. Yes, sir.

Mr. DICKS. So you are just going to carry that money?

Ms. DRUYUN. Yes, sir. We are going to roll that forward.

AIRLIFT PROBLEMS

Mr. DICKS. In our hearings with General Hoar last year, the Chairman asked him about whether Central Command could pull off a Desert Storm given the same circumstances in the same time frame. In other words, could we do Desert Storm today?

> General HOAR. I think the time frame would be very difficult, Mr. Chairman, and I will tell you why. Seventh Army Corps that participated with such great distinction in Desert Storm is no more. It is gone. If you were to take, for example, the Third Army Corps out of Texas, you would add additional lift requirements and time.
>
> The second thing, which is of far greater concern to me, and this is a direct result of our operations in Somalia—the C–5 and C–141 fleet is in big-time trouble. Those airplanes are overworked. I talked to a U.S. Army battalion commander in Somalia who told me he had troops scattered in *five different countries*. Everybody had left Fort Drum, but he wasn't sure where they were. There were some in Spain and Iceland.
>
> We are in serious trouble on airlift mainly because of the age of the airlift fleet and the continuing overuse. We really beat up these aircraft during Desert Storm and Desert Shield, and a combination of events that followed. Disasters at home, peacekeeping operations like Somalia, and activities elsewhere have really put a heavy strain on these aircraft.

General, you are telling me everything is fine?

General HAWLEY. I wouldn't dispute a word that General Hoar said.

Mr. DICKS. How can this be as bad as it was, but by December you have it fixed?

General HAWLEY. By December, we will have all of the 141s, the deficiencies corrected, the weep holes and boron problem that we had, but they are still going to be tired old airplanes and will continue to break in places like Iceland and Spain and wherever they stop en route to their destination. They have 35,000 hours on them.

Their life has been extended already once, and we are going to continue to have problems. That is why we need a new airlifter.

C–141 REPLACEMENT

Mr. DICKS. Don't be so preoccupied with the C–17 that you forget that you have these old tired C–141s. It seems to me we ought to be doing something now to bring on some new capabilities. That is why I think Congress looks at this non-developmental aircraft program as so important. We can't understand why with all this testimony and all this concern about airlift, we are not taking a more aggressive stance in going forward with a more aggressive program.

Why aren't we willing to do something to replace the C–141s?

Mr. MURTHA. Years ago this Committee decided the Navy needed SL–7s. The Navy was against it. We battled them for two or three years. Finally, they bought the SL–7s and converted them, and they were the savior in getting people and gear to Saudi Arabia.

Your projection is that the C–141 is going to last from 1994 to 2004, that depends on the operational needs. If the operational tempo is higher, you will have a much shorter time available. What we are trying to achieve is a short-term fix to the airlift fleet that may get us through in case something happens in the short term, and it will be too late to try to fix it.

Mr. DICKS. From a leverage perspective, if you start doing something about the C–141s now, then you have a program in place that really puts pressure on McDonnell Douglas. The other strategy—all you have is a paper competition between existing nondevelopmental aircraft. You start doing something about the C141s now, that really puts pressure on McDonnell Douglas.

Ms. DRUYUN. Having personally spoken to General Fogleman a number of times on this issue, he has told me that one of the things that they have been doing—and he believes successfully—this past year is to supplement his 141 fleet and his additional airlift capability with what he terms "leasing" of DC–10s, 747s, from the commercial airlines.

He thinks that is helping to fill some of that void.

I think it is very important that this Committee understand something about a nondevelopmental airlift competition. I don't consider it to be truly nondevelopmental. It was very clear when you looked at the IDA analysis that had been done, the COEA that when you talk about oversize cargo and outsize cargo, you have to do two things that are major to this arrangement. One is called beefed-up flooring, and I have talked to a number of structural engineers who tell me that is not an insignificant task.

Mr. DICKS. Any of them work for Boeing?

Ms. DRUYUN. No. I have talked to some rather distinguished individuals who work for MIT, in Stanford. And the other issue—and this is really the more significant one that the structural engineers have told me—that is putting in much larger doors. When you look at the outsize cargo and oversize cargo that has to be carried, the doors that are on a 747 or a DC–10, you can't get the cargo through it.

They will have to do some redesign to that aircraft to put in a much larger door, and it can have some long-term structural impacts on that aircraft. That is why it is very important for us to do this right, to understand what the risks are and what the designs will look like, so that ten years from now I don't have to explain to you how I rushed out and did a procurement and erred and bought something that did not live up to its 35-year life.

I think that is an extremely important point to make.

Mr. DICKS. I was out with Secretary Deutch in November and we met with the Boeing people. They told him they could modify the plane to do the two things you have talked about on the production line. I think you ought to check with the people who build the airplane——

Mr. DRUYUN. We have.

Mr. DICKS [continuing]. And get their input, too, here.

Ms. DRUYUN. I personally have not, but I did send a team out from Aeronautical Systems Center to meet with the contractor.

I also have to tell you that it is not acceptable to the Air Force to have a contractor do a major redesign, particularly cutting a new hole in the side of the aircraft, and tell us he is not going to do additional testing on it. That is not an acceptable risk, and we will require, I feel very confident, that we will do some additional structural testing once we even buy these aircraft to ensure that we know exactly what it is that we have bought.

It is a fairly complex issue.

Mr. DICKS. Well, that may well be. This Committee didn't create the nondevelopmental aircraft program.

It happened to be the authorizers, and we have financed the program. We think there is an airlift problem and, frankly——

Ms. DRUYUN. We agree with you.

Mr. DICKS. But, we don't get any sense of urgency from the Air Force—it is business as usual, go about our careful way of doing this. We can't have people tell us for two years, there is a problem, and have the distinguished CINCs come here and tell us when they have to do something they haven't got the ability to do it.

We have kids strung out across the world because these planes don't work, and then you come up here and tell us you are going to have this long, drawn-out way of doing something about it. I don't think that adds up.

If there was a sense of urgency and we got the impression that you were serious about doing something about it, we'd all feel better. But it looks to me like this is an ability to put pressure on McDonnell Douglas. That is all you are interested in here is a way to create a myth of a competition in order to pressure McDonnell Douglas, that you are really not serious about coming up with a nondevelopmental alternative.

If you were, you wouldn't take this long to do it.

Ms. DRUYUN. I very much disagree, because there are a number of candidate aircraft that one has to look at, including something called remanufactured aircraft. There are a number of companies out there who are eager to sell us what I term "remanufactured aircraft," which puts yet another risk into this program.

Mr. DICKS. Are you going to test those, too?

Ms. DRUYUN. We are going to do serious studies on those and understand what we would potentially be buying and make sure that is properly reflected in the COEA analysis that will go into the overall decision.

I sat down and I looked independently, if we were to rush out the door and try to get a competition like this done, and I worked closely with the commander of Aeronautical Systems Center on this issue, and his best estimate was, it would take from 15 to 18 months just doing a procurement independent of the C–17 decision. I guess there are a couple of complexities there. One, how many C–17s are you going to buy. Because I am here to tell you that your decision is very different if it is only 40 C–17s versus 80.

AIRLIFT ALTERNATIVES

Mr. DICKS. That is only half the problem, the condition of the C–141s and the program. We are going to have to deal with that. If you are only going to have 80 C–17s, which I hope we get to 80, you are going to have to have some alternative.

It seems to me that—that you don't think this is as serious a problem as General Hoar does or we would have a more aggressive approach to dealing with it.

General HAWLEY. I assure you that we see it just as important as General Hoar and all the other CINCs, but we are obligated to make sure that we make the proper decision for the user and the taxpayer. In order to do that, we have to follow some of the steps.

We are talking about a decision that is going to be made in 18 months. The amount of additional capability that we could provide the user in that length of time is pretty significant.

We couldn't do much for them. If we went out today and said deliver me a 747, it is not going to get in my hands tomorrow. It will take some time.

If I said give me a 747, the people I would ask to go buy it wouldn't be able to write a contract for a long time.

Ms. DRUYUN. Oversize and outside cargo add up to at least 60 percent of the cargo that is hauled around on a daily basis by military airlift command and until those airplanes would go through a modification, they would not be capable of even carrying them.

But more importantly, when you look at a nondevelopmental aircraft as opposed to a C–17, a nondevelopmental aircraft cannot do a number of critical things in terms of military utility.

One is called airdrops. The other is low altitude parachute extraction, takeoff and landing from short airfields, landing or takeoff from unimproved airfields and survivability and capability of backing up.

So thinking that you can do a one-for-one discussion——

Mr. DICKS. Can a C–5 back up?

General HAWLEY. No, sir.

STREAMLINING ACQUISITION

Mr. MURTHA. We understand. We are just trying to impress upon you that it is a problem with us and we know there is every reason to be cautious about it, but we hope that this new streamlining of acquisition which we keep hearing about would mean that we can put a 747 or whatever we acquire in the fleet—in an expeditious manner.

Mr. DICKS. It was this Administration that said they are going to buy things off the shelf.

Ms. DRUYUN. The requirement is not an off-the-shelf requirement.

Mr. DICKS. With all due respect, I know a little bit about airlift. A lot of what you could ship around the world could go into a 747, a current 747. Listen to me and I will respect you and you can respond.

There is a lot of what the military ships in the early days can go on a 747. Not everything has to go into a C–17 or C–5.

A lot of what we ship goes by sea. About 90 percent of it and the other 10 percent goes by air. It is just a question of allocating it between assets.

You are using 747 CRAF aircraft today, as General Fogleman said. So you have to be careful here. If you want to do it, you could do it and you could get a lot of additional capability quickly just by buying existing planes off the lot.

It would give you a brand-new airplane that is much more fuel-efficient and in my judgment would help stem the problem that General Hoar is talking about.

There is a certain segment of that 100 percent that can go in the existing airplane and then you could do the modifications over time or lease or charter them.

There is a lot of additional capability that is out there that it can provide. If you were showing me a CRAF program that you were promoting as an alternative because you recognize there is a crisis and we need to do something about it, I wouldn't be nearly as upset.

I am concerned about the pace and the lack of what I call serious commitment. I think that is all part of the C–17 game and we are letting a significant issue slip. I think that is a mistake.

Mr. MURTHA. Madam Secretary?

Ms. DRUYUN. I would like to say that we take this very, very seriously and that we are working this requirement very closely with the user. We are looking forward to the streamline legislation being passed to enable us to go out and fly to use commercial-like procedures in this upcoming competition.

Mr. MURTHA. Thank you very much.

Mr. Skeen?

Mr. SKEEN. Thank you, Mr. Chairman.

I have one thing to say. I know there has been a considerable amount of discussion on the C–17 and the applications, et cetera, and I understand the major thrust of most of the argument.

I think you have a fine aircraft and I think this new compromise on the production end of the program that you have worked out is going to be the answer to it, and get it done, because you have to have it.

You can talk about commercial applications, but you still have to have an aircraft that you can use solely for the purpose of your lifts and cut out a couple of legs in this triad that you are using now.

There is always a problematic situation. I think between the producer and the users that you have reached a good compromise and let's get it done. Thank you.

Mr. MURTHA. Thank you, Ms. Druyun, General Hawley and General Babbitt. There will be additional questions for the record. The Committee will adjourn until 1:30 this afternoon.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

KC–135R MODERNIZATION PROGRAMS

Question. This committee has been a strong supporter of the KC–135R Modernization Program, especially for the Reserves. From our perspective, it is a good investment of defense dollars. The modernized tanker continues to be the most cost effective solution to the aerial refueling shortfall. Significant fuel and maintenance savings are achieved. And, almost as a bonus, the modernized tankers meet all current and proposed environmental standards for noise and emissions. As we clearly saw in the Persian Gulf war, once we deployed, air power continued to require extensive tanker support. In fact, aerial refueling was the limiting element in the air campaign.

It is our understanding that the KC–135R meets or exceeds all specifications and is virtually problem free. In your professional opinion, has the KC–135R been anything other than a model procurement program?

Answer. The KC–135R program has been a tremendous success and has significantly enhanced the operational effectiveness of the Air Force air refueling fleet. Modifications to engines and related systems have improved performance and fuel off load capability while significantly reducing noise and smoke.

Procurement challenges have occurred as a result of isolated specific hardware problems (such as the initial reliability of the auxiliary power unit) and the instability of funding (including insufficient multi-year appropriations) which complicated the purchase of long lead items and delayed the procurement and installation schedule.

Although the life cycle cost of the KC–135A/Q models justified the program expenditure recent studies have demonstrated insufficient life-cycle cost savings for the KC–135E model conversion.

For more than a decade, the program has consistently produced KC–135 modifications which have significantly enhanced air mobility and the power projection capability of U.S. forces.

Question. The Air Force has testified that 1994 is the year of readiness. Since this intent is to place "utmost emphasis on solving readiness problems, how important is the role of the KC–135 refueled in the ability of the Air Force to execute the two MRC strategy through the Fiscal Year 2000 time frame?

Answer. The KC–135 is critical in executing the two MRC strategy. Service as a force multiplier for all DOD components, the KC–

135 primarily provides air to air refueling of airlift aircraft and deployment/employment support for combat forces. Additionally, the KC–135 fleet supports Navy/Marine Corps aviation, national taskings (JSTARS, AWACS, and RC–135 refueling for example), organic airlift, and air refueling training. In these varied roles the KC–135 underwrites US power projection capability.

BOMBER PROGRAM

Question. The Air Force indicated in their plan for 100 PAA bombers, these would be an attrition reserve of approximately 30 B–52s and 26 B–1s. Do you plan to fund all of the conventional upgrades for the entire B–1 fleet to include those in the attrition reserve?

Answer. In the FY 1995 budget, the Air Force reduced the B–1 force from 84 primary authorized aircraft (PAA) to 60. A 60 PAA force requires at least 72 total airframes (TAI) to meet our PAA, test, maintenance, attrition and back-up aircraft requirements. As a result, 23 airframes were excess to our normal requirements for a 60 PAA/72 TAI fleet. Although these 23 aircraft remain in the active available inventory, they are not programmed to receive conventional modifications in the FY 1995 budget. Since no significant funds were needed for these modification for several years, the decisions on whether or not to fully fund the fleet was deferred to the FY 1996 budget cycle.

The Air Force is examining the costs and funding got these additional aircraft as part of developing the FY 1996 Program Objective Memorandum. Our preference is to preserve this force structure, with full conventional modification. In the interim, the Air Force plans to retain these B–1Bs attrition reserve. In this funding category, the B–1s receive the same scheduled maintenance and safety modifications as the rest of the fleet, and are kept actively flying.

Question. FY95 request includes CUMP (sic) for 72 B–1s—when will you fund the remaining aircraft?

Answer. We will take the decision on whether or not to fully fund the fleet of 95 aircraft in the FY 1996 budget cycle as part of developing the FY 1996 Program Objective Memorandum. Our preference is to preserve this force structure, with full conventional modifications.

In the interim, the Air Force plans to retain the remaining B–1Bs as scheduled maintenance and safety modifications as the rest or the fleet, and are kept actively flying.

Question. What capabilities will those B–52s in attrition reserve status have?

Answer. The attrition reserve B–52Hs will maintain their existing nuclear and conventional capabilities. This includes nuclear gravity weapons, Air Launched Cruise Missiles (ALCM) and Advanced Cruise Missiles (ACM). On the conventional side, they can release a wide array of non-precision gravity weapons, like MK–84s, cluster munitions and naval mines. These aircraft also will maintain Conventional ALCM (CALCM) capability. The Air Force has no plans at this time to install any conventional enhancements that would allow carriage of precision weapons.

Question. What is the status of the B–1 spare parts backlog?

Answer. As of 28 February 1994, the B–1 backlog of depot-level repair parts was approximately 2900 items. This backlog is due primarily to a shortfall in FY93 funds for Interim Contractor Support (ICS). Depletion of the backlog is dependent upon the Air Force's ability to improve overall B–1 supportability through related efforts such as ICS cost reduction, accelerated transition to organic repair to the maximum extent possible, and aggressive management of daily repair requirements.

Question. What is the status of the engine spares?

Answer. The Air Combat Command (ACC) B–1 fleet-wide engine spares status on 5 Apr 94 was 28 serviceable spares. The ACC War Reserve Engine (WRE) level is 20 serviceable spares. Due to force structure realignments, ACC WRE level was reduced from 29 to 20 spares, effective 1 Apr 94.

Question. Is there funding in the FY95 request to address the parts backlog?

Answer. The FY95 request did not specifically include additional funds to reduce the parts repair backlog. However, the Air Force has aggressively attacked the backlog problem by focusing efforts on ways to reduce the cost of interim contractor support, accelerate the transition to organic repair capability, and closely manage the daily repair requirements. With the benefits received to date from these efforts, plus what we anticipate in the future, fully funding the FY95 request should be adequate to reduce the repair backlog by the end of that fiscal year.

Question. Funding for Interim Contractor Support and several modifications is included in the FY95 Air Force Procurement request. Last year Congress mandated an Operational Readiness test for a portion of the B–1 fleet but provided no funds for this activity. How many B–1 aircraft will participate in this test?

Answer. There are 24 aircraft participating in the Operational Readiness Assessment—12 aircraft from each of the two operational squadrons assigned to the 28th Wing at Ellsworth AFB, SD. It should be noted, however, that the Interim Contractor Support and modification funding requested in the FY95 budget is necessary to support ongoing modifications and programmed flying hours for the entire fleet.

Question. What impact do you believe the Operational Readiness Assessment will have on the B–1 aircraft that will not participate in the test?

Answer. A detailed analysis of the estimated impact on non-test B–1 units is contained in the Operational Readiness Assessment (ORA) Test Plan which was submitted to Congress in March. The two non-test bases are at McConnell AFB, KS and Dyess AFB, TX. Since the B–1 is limited in spares, parts must be obtained either from pipeline improvements or from cannibalization of existing mission capable at these nontest units. The impact on non-test units will be determined by how we re-allocate our spares. Our current estimates are that Dyess AFB will experience a 43–49.6% mission capable rate and McConnell AFB will be in the range of 35–47.3%. We will closely monitor the non-test units to ensure operational aircrews remain combat ready.

Question. Is there enough funding in the request to address the additional spare parts and reparables the test will generate?

Answer. The Air Force does not anticipate the need to program additional funds to support the Operational Readiness Assessment. Sufficient O&M funds exist to cover the support costs associated with conducting the test. It is anticipated that the non-test units will experience a drop in mission capable rates due to the spare parts requirements of the test; however, they will remain above threshold levels.

NON-DEVELOPMENTAL AIRCRAFT/AIRLIFT

Question. In testimony, you indicate "the C–141 is rapidly approaching the end of its useful service life—and that without a replacement aircraft this nation's ability to project forces worldwide will be greatly curtailed". You are retiring the C–141s at the planned rate to be completed by 2005. The procurement and delivery of the C–17 is not what had been previously counted on—obviously there is a shortfall. Why aren't you addressing—in a cost effective manner—the existing non-core airlift shortfalls that we are facing today?

Answer. We recognize the severity of the current airlift shortfall and are taking steps to ensure the nation has adequate airlift capability, both now and in the future. Regarding the present capability, the health of the C–141 fleet continues to improve—80% of the fleet is now unrestricted. The remaining 47 grounded aircraft will be unrestricted by December 1994.

We want to act smartly to ensure we possess the correct airlift fleet for the future. We are working with the Joint Staff to refine our airlift requirements and the mix of aircraft needed for the next century. We're doing this by refining our 1992 Mobility Requirements Study in light of the 1993 Bottom-Up Review. This key study, the Mobility Requirements Study/Bottom-Up Review Update, is expected to be complete this fall and will quantify our airlift needs.

We are currently planning the procurement, as well as investigating a possible lease arrangement, of a commercially available airlifter. A risk reduction effort is in progress that will develop a tailored Cost and Operational Effectiveness Analysis for Non-Developmental Airlift Aircraft. We are taking all reasonable steps to minimize the duration and impact of the nation's airlift shortfall.

Question. It's my understanding that a program office for the non-developmental aircraft program has been established in the Air Force acquisition community, what requirements and criteria will be used to determine a source selection?

Answer. Requirements for a Non-Developmental Airlift Aircraft are in the process of being defined. The Air Force will publish the requirements in an Operational Requirements Document to be finalized later this year. Since operational requirements are not defined, it is premature to specifically define source selection criteria.

PILOT PROGRAMS

Question. In your testimony, you indicate that the Air Force has four of the seven pilot programs of acquisition reform. Which are Air Force programs?

Answer. The four Air Force programs are: Joint Direct Attack Munition (JDAM), Joint Primary Aircraft Training System

(JPATS), Commercial Derivative Aircraft (CDA), and Commercial Derivative Engine (CDE).

NON-DEVELOPMENTAL AIRCRAFT/AIRLIFT (NDAA)

Question. Given General Hoar's testimony before this committee and before other defense committees on the fact that airlift is broken, isn't there a danger in waiting until the Fall of 1995 to make decision on additional airlift when the requirements are known today?

Answer. No, the requirements are not completely known today. There is considerable risk in making a decision on the NDAA before the airlift requirement is clearly defined by the Mobility Requirements Study/Bottom-Up Review Update (MRS/BURU) and before the C–17 Milestone IIIB decision is made. In addition, the health of today's organic airlift fleet has shown significant improvements since events in the fall of 1993 grounded most of our C–141 fleet. Air Mobility Command anticipates corrective maintenance actions will return 197 C–141 aircraft (80% of total inventory) to unrestricted operations by April 1994 and the entire fleet by December 1994. These improvements in the C–141 fleet reinforce the DOD decision to define the requirement and accurately determine, by the fall of 1995, the NDAA best suited to meet future airlift modernization needs should the C–17 program not meet required performance thresholds.

Question: Why does the NDAA program continue to be linked with the C–17, when there is a real shortfall in oversized cargo load capabilities? Do you really plan to use the expensive C–17 aircraft for oversized cargo and palletized loads?

Answer: The acquisition strategy for airlift modernization is based on two points. First, we need an aircraft like the C–17. There is no other aircraft that can provide the flexibility we need in a core military airlift aircraft. Second, if the C–17 does not meet expectations, an alternative must be immediately available. To that end, we have started a streamlined acquisition process that will lead to an integrated decision on airlift force structure at the C–17 Milestone IIIB in November 1995.

A decision made now on a non-developmental airlift aircraft would lack three essential pieces of information. First, the Joint Staff is updating the Mobility Requirements Study based on the results of the Bottom-Up Review. The results of this study may alter our assessment of both the type and quantity of airlift we need. Second, we do not know today the extent of the modifications that may be necessary to make a commercial derivative aircraft responsive to military needs. Third, the Air Force will better understand the capabilities of the C–17 at the Milestone IIIB decision point because the results of the flight test program and the reliability, maintainability and availability evaluation will be available along with an assessment of the contractor's performance after the two year probationary period. These three points argue very strongly for making an integrated airlift force structure decision in November 1995.

The C–17 can carry all three types of airlift cargo (outsize, oversize and bulk). It can deliver this cargo by landing at a major airfield with a robust infrastructure like a commercial freighter aircraft; or by landing at a short, austere airfield unusable by commercial freighter aircraft; or by airdropping when landing is not feasible. There are many scenarios where warfighting commanders will need oversize and bulk cargo delivered in inaccessible areas. The C–17 aircraft will be utilized in whatever role best meets the needs of the theater commander.

SEVEN PILOT PROGRAMS/ACQUISITION REFORM

Question. What is the status of the commercial derivative aircraft in this program?

Answer. The commercial derivative aircraft program is part for a larger package being processed for pilot program status. The package is currently being worked by the Department of Defense with the administration and Congress. The goal is to include pilot program enabling language and statutory waivers in the expected acquisition reform legislation.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks. Questions submitted by Mr. Wilson and the answers thereto follow:]

DEFECTIVE FUZES

Question. In the FY94 Department of Defense Act, this committee directed DoD to aggressively address the problem of defective fuzes on the 40mm PGU–9A/B rounds which is the "standard" Ammunition used in our USAF, SOCOM Spectre C–130 gunships. Members of our committee have been told by crew members of these gunships that there is deep concern over the potential for premature detonation of these rounds during operations. The committee has been informed that both USAF and SOCOM are aware of the serious safety of flight issue with the current fuze used in these rounds. It was this information that caused this committee to direct SOCOM to remedy the situation by replacing the old fuzes with a qualified, in production fuze and to begin this replacement within 90 days. Please report for the record, why our direction in the FY94 DoD Act has not been followed and expound on why the USAF Logistics community at Eglin is handling this serious problem in the manner that it is, and why USSOCOM is not exercising the procurement authority we granted to it, especially to handle this type of situation?

Answer. Both the FY94 HAC and Appropriations Conference language directed the procurement of the LI–465 fuze made by Bofors of Sweden to replace the MK–27 fuze on PGU–9A/B 40mm ammunition used by AC–130 Spectre Gunships. However, we are unable to award a sole source contract to Bofors because this effort does not meet any of the seven circumstances in the 1984 Competition in Contracting Act that permit other than full and open competition.

The Special Operations Forces Munitions Program Office's acquisition strategy complies with that law and has been approved by both the United States Special Operations Command (USSOCOM) and Air Force Special Operations Command (AFSOC). The first lot of replacement fuzes will be on contract on or about 20 May 1994 with fuze deliveries beginning by Jan 95. AFSOC has sufficient quantities of other types of "safe" 40mm ammunition to maintain

100 percent operational readiness and aircrew training through FY95.

This program is MFP–11 funded but managed by the Air Force in accordance with the memorandum of agreement between the Air Force and USSOCOM.

[CLERK'S NOTE.—End of questions submitted by Mr. Wilson. Questions submitted for the record and the answers thereto follow:]

C–17 RELIABILITY, MAINTAINABILITY, AND AVAILABILITY (RM&A)

Question. Define an "affordable" C–17 aircraft. At what point do you conclude that this is an unaffordable program?

Answer. In deciding what is an affordable aircraft, one must consider variables such as: (1) the capabilities of the aircraft; (2) the criticality of the requirement the aircraft satisfies; and (3) the availability, costs, and capabilities of other alternatives. These variables will be considered at the C–17 Milestone III decisions in Nov 95 for the C–17. By then, we will have a complete picture of the capabilities of the C–17 from its test program and the Reliability Maintainability and Availability Evaluation. We'll also have the results of OSD's look at the airlift requirement based on the Bottom-up Review and we'll have insight into the true costs, capabilities and risks of several non-developmental alternatives. At that point, the Department will be able to make a true comparison between alternatives and determine the "affordable" solution to our airlift needs of the future.

Question. One of the key technical events for the C–17 program is the reliability, maintainability, and availability evaluation (RM&A) to be conducted in July of 1995. Twelve C–17 aircraft will participate in a thirty day exercise flying in actual war and peacetime airlift scenarios. Describe to the committee the structure and goals of the RM&A evaluation.

Answer. The C–17 Reliability, Maintainability and Availability (RM&A) Evaluation is a contractual requirement demonstrating the reliability and maintainability parameters of the C–17. The RM&A evaluation has been structured as an operationally representative scenario that provides adequate reliability and maintainability data collection opportunity to ensure the aircraft meets Air Force needs. The evaluation contains a period of peacetime operations followed by a high intensity period representing activities in support of a major regional contingency and a return to peacetime. The peacetime scenario mission profiles demonstrate the entire spectrum of C–17 activities: aircrew initial qualification and continuation training; airdrop missions and training; logistics missions; and direct delivery logistics missions to a short austere airfield. The wartime scenario mission profiles demonstrate strategic movement of cargo: logistics missions, direct delivery logistics missions to a short austere airfield, and strategic airdrop. The wartime scenario's logistics missions are similar to the major regional contingency used last year in the C–17 Cost and Operational Effectiveness Analysis (COEA) for the Defense Acquisition Board (DAB).

Additional goals beyond the contractual requirement to demonstrate reliability and maintainability parameters that would be required for the Milestone III DAB decision in November 1995 are being developed in an ongoing senior level review process.

Question. What are the key performance criteria to be met?

Answer. We are currently conducting a review of the reliability, maintainability and availability evaluation planning at senior levels of the Air Force. Part of this review is coordinating goals, objectives and exit criteria with OSD. These criteria will be available well in advance of the C–17 Milestone IIIB decision in November 1995.

Question. Define what the term of utilization rate means for the aircraft. Given past production problems, the first 12 C–17 aircraft are not of a common configuration. To accurately measure the reliability of any system the test articles (i.e., aircraft) have to be as close to a uniform configuration as possible for accurate test results.

Answer. Utilization rate is a fleetwide measurement that describes the average daily flying hours per primary authorized aircraft for a specific aircraft type. The utilization rate is used both in planning and reporting aircraft usage. A desired or objective utilization rate is established during operational planning. Resource levels are adjusted and operations policies established to support the objective utilization rate. Utilization rate is sensitive to numerous factors involving resources (e.g., aircrews, spares, ground support), operations concept (e.g., air refueling, crew augmentation), scenario constraints (e.g., leg lengths, air traffic control, airfield capacity), and aircraft capability (e.g., speed, mission capable rate, range/payload).

Aircraft configuration management for the reliability, maintainability, and availability evaluation is a prime concern. Aircraft retrofit schedules and corrective action implementation plans are being reviewed to ensure a common aircraft configuration for the start of the evaluation. This demand is balanced against the obligation to include as many improvements as possible. Air Mobility Command has determined not more than two aircraft configurations with the same capability will be accepted for the reliability, maintainability, and availability evaluation. These configurations will be defined prior to the evaluation. We believe this approach will provide accurate test results.

NON-DEVELOPMENTAL ALTERNATIVE AIRLIFT PROGRAM

Question. It is the Committee's understanding that the department is in the midst of a major update to the Mobility Requirements Study (MRS) to factor in the effects on lift requirements of supporting two major regional contingencies as outlined in the Bottom-Up Review. Do you expect overall airlift requirements to change significantly either in terms of level or emphasis as a result of the review?

Answer. The Department of Defense (DOD) is actively engaged in the Mobility Requirements Study Bottom-Up Review Update (MRS BURU) with a final report due in Oct 94. The MRS BURU will incorporate the many significant changes in mobility assumptions which have occurred since publication of MRS Volume I in Jan 92. These changes include Bottom-Up Review (BUR) warfighting enhancements such as additional land-based pre-positioning and earlier arriving tactical fighter aircraft. In addition, changes have occurred in our overall Service force structure, contingency warning times, acquisition timeline for the C–17 aircraft, and logistical planning factors. The true impact of these many significant changes is unclear at this point in the MRS BURU. Preliminary analysis indicates the early airlift requirement may have grown over previous MRS Volume I levels. This potential increase is a result of greater demand for airlift of troops and unit combat support equipment to meet up with the early arrival of both land and afloat based propositioning equipment. When complete, this extensive study will clearly determine the impact of these mobility changes as well as define our future strategic airlift requirement to include bulk, oversize, and outsize cargo. As one of our top priorities, the Air Force will continue to place great emphasis on ensuring our nation maintains an adequate strategic airlift capability. We anticipate the MRS BURU will demonstrate the importance of strategic airlift to our nation's defense and validate our future airlift requirements.

Question. Describe the NDAA program acquisition strategy to the Committee.

Answer. The acquisition strategy for airlift modernization will be based on two points. First, we need an aircraft like the C–17. There is no other aircraft that can provide the flexibility we need in a core military airlift aircraft. Second, if the C–17 does not meet expectations, an alternative must be immediately available. To that end, we have started a streamlined acquisition process that will lead to an integrated decision on airlift force structure at the C–17 Milestone IIIB in November 1995.

The acquisition strategy includes activities which focus on reducing cost and schedule risk of NDAA while the requirements process continues. For example, we do not know today the extent of the modifications that may be necessary to make a commercial derivative aircraft responsive to military needs. To that end, risk reduction efforts such as floor strength and door with width studies on commercial aircraft are in process. An aircraft loading evaluation is also planned. An NDAA aircraft procurement Request For Proposal is being drafted. A "tailored COEA" will provide a new look from a broader data base to further reduce the risk of making the wrong decision for the optimum force mix and will feed in to the November 1995 decision. This acquisition strategy puts us on a solid course to be able to act upon the airlift force structure decision in November 1995.

Question. In the course of conducting loading evaluations are private bulk cargo carriers being consulted? Do you believe the Air Force has anything to learn about material handling techniques from private bulk cargo carriers?

Answer. Air Mobility Command (AMC) works closely with private bulk cargo carriers in the Civil Reserve Air Fleet program. On a daily basis, AMC charters private bulk cargo carriers for airlift missions. As a result of the recent problems with the C–141 force, AMC has increased the use of civilian cargo carriers. Most of these civil contract airlift missions operate into Air Force bases worldwide, where Air Force personnel load and unload the aircraft. AMC has extensive experience in configuring loads, and loading and unloading a wide variety of civil cargo aircraft.

The vast majority of the commercial charter work is bulk cargo. Commercial carriers primarily specialize in movement of routine bulk packages on a set schedule to and from specific locations with maximum utilization of automated material handling techniques. Conversely, AMC specializes in airlifting larger, more varied outsize and oversize cargo loads such as vehicles and helicopters. AMC has limited experience in loading and unloading this type cargo on civilian cargo aircraft.

Starting on 22 April 1994, AMC will conduct loading studies with civilian cargo aircraft. The purpose of these studies is to gather data on the time, equipment, and procedures required to load military vehicles and other larger items of cargo on civilian cargo aircraft. The data will be used to improve current analytical models that AMC uses to assess throughput and airlift force capability. These models are currently incomplete because they are based on limited experience with the unique requirements for loading military vehicles on civil cargo aircraft.

AMC is working closely with both aircraft manufacturers and civil carriers to complete this study.

Question. Why does yet another COEA need to be performed concerning the airlift fleet?

Answer. A "tailored COEA" study is planned as part of the NDAA acquisition strategy. There are several reasons to initiate a new study of the cost and operational effectiveness of the airlift fleet. First, the Mobility Requirements Study/Bottoms-Up Review Update (MRS/BURU) will provide updated requirements information. Additional experience in C–17 production and operations will provide more accurate cost and performance data for the C–17. New data on our ability to support aircraft utilization rates will also be available. NDAA studies will provide better insight into the costs and capabilities of NDAA alternatives. Maximum on-the-ground or "MOG" analyses and loading studies will provide new information for the aircraft loading model which can then be used in the new study. In summary, the "tailored COEA" will provide a new look from a broader data base to further reduce the risk of making the wrong decision for the optimum force mix.

C–130 AIRCRAFT

Question. The fiscal year House Defense Appropriations Report requires the Department of the Air Force to submit a C–130 airlift modernization plan to Congress. What is the status of the report?

Answer. The FY94 House Appropriations Committee Report 103–254, 22 Sep 93, directed the SECDEF to submit a C–130 airlift modernization plan by 31 Mar 94. OSD delegated responsibility for the plan to the Air Force. The report is in final coordination at the Air Staff and Joint Staff level. We expect the report out in early April.

Question. Is the Air Force giving consideration to modernizing the C–130 fleet with the C–130J?

Answer. The need to modernize our theater airlift forces is widely recognized. The question is one of timing and pace. We are considering a number of options for our next budget request and will continue close consultation on alternatives and final recommendations.

Question. What is your understanding of what the C–130J program entails?

Answer. At the present time there is no C–130J program. However, Lockheed Aeronautical Systems Company (LASC) has been discussing the C–130J with the Air Force. LASC envisions a potential acquisition program which procures 8 to 12 aircraft per year, beginning in FY96.

LASC is currently developing the C–130J with its own resources and plans to amortize the development costs over the first 120 aircraft sold. The Air Force is conducting an analysis of the procurement and development costs for the C–130J and plans to submit the results of that analysis in a report to Congress on 1 Jun 94.

LASC estimates that the total C–130J market (international, U.S. government, and commercial sales) is approximately 480–600 aircraft.

Question. What improvements to the current C–130H are contained in the C–130J?

Answer. The C–130J airframe remains basically unchanged from the H-model. Minor improvements include strengthening the cab top to accommodate a refueling probe. The aircraft will not have external pylons but will retain hard points for fuel tanks.

The flight station in the J-model has been reconfigured for a two man crew. The cockpit features two head-up displays and four flat panel, liquid crystal displays. The center and overhead consoles have been totally overhauled.

The C–130J also features a full-authority digital flight control system, dual redundant 1553 data bus, simplified fuel system, and improved environmental control system.

There is a major change to the propulsion system. The J-model will be powered by four Allison GMA 2100D3 turboprop engines rated at 6000 SHP. They provide 31 percent more thrust than the current Allison T56–A–15 engines on the C–130H and are expected to be 18 percent more efficient. The engines will be equipped with Dowty R391 six-bladed composite propellers which have 90 percent fewer parts than the current model and weigh 15 percent less.

Lockheed Aeronautical Systems Company (LASC) data indicates that the C–130J will have a 32 percent improvement in takeoff roll, 37 percent improvement in time to climb to 20,000 feet, 45 percent improvement in range, and a 21 percent improvement in maximum speed. LASC also estimates that the C–130J will realize an 18 percent operating and support cost improvement and a 4 percent reduction in life cycle cost.

LASC's projected performance improvements are largely design estimates and have neither been confirmed by LASC test data nor validated by the Air Force test community. The first flight of a C–130J test aircraft is scheduled for Nov. 95.

Question. When will the C–130J be available for procurement?

Answer. According to Lockheed Aeronautical Systems company (LASC), first delivery of USAF C–130Js would be possible in the 4th Quarter of CY96.

LASC has suggested a scenario in which FY94 funds are used to procure two C–130Js. They suggest that DoD consider using FY94 ANG funds to procure six C–130Hs and two C–130Js instead of eight C–130Hs.

Question. If the Air Force decides to procure the C–130J will an independent government flight test program be necessary?

Answer. Yes. The USAF would most likely conduct a Qualification Test and Evaluation (QT&E) and Qualification Operational Test and Evaluation (QOT&E) program. The ultimate duration and content of any USAF test program for the C–130J will depend on the final aircraft configuration and capability, as well as the extent of the contractor conducted developmental test.

Question. What major subsystems have been qualified to date on the C–130J?

Answer. With the exception of some radios, no subsystems have yet been qualified. In the absence of USAF qualification, Lockheed Aeronautical Systems Company will be relying on FAA certification of major subsystems as part of the aircraft type-certification which will not occur until the first C–130J test article is off the production line in late CY 1995. A few subsystems, such as the autopilot, will be manufactured in compliance with already existing FAA Technical Service Orders and will be certified prior to the aircraft type-certification.

The Allison GMA 2100D3 engine, which will be certified with the aircraft in CY95, has already been mated with the Dowty six-bladed propeller and has completed a sixty hour ground test at Allison's Indianapolis facility. The engine has since been installed in the #2 position of a Royal Air Force C–130 and has completed its first test flight on 19 Mar 94.

B–2 PROGRAM

Question. As you know there are many issues concerning the adequacy of the overall bomber force structure proposed in the Bottom-Up Review. The Committee will be addressing this larger issue in a special hearing later in the year. Today, however, there are several specific questions about the present state of the B–2 program that need to be raised. What is the present delivery schedule for the B–2?

Answer. The first B–2 was delivered to the user last December. By the end of 1994, we expect to have a total of five B–2s at Whiteman AFB, Missouri. The last production B–2 will be delivered in 1998, and the last aircraft will be upgraded to the final production configuration, called Block 30, in 2000.

Question. The manufacturer has floated a proposal to maintain a "warm production line" for the B–2. The total cost of the proposal in fiscal year 1995 is reportedly $150 million. Has the Air Force taken a serious look at this proposal and if so, are the estimated costs reasonable?

Answer. The Air Force has not received a detailed break down of this proposal from the manufacturer. However, our understanding is this figure includes costs for long-lead procurement, in-place retention of tooling otherwise scheduled for storage, and requalification of vendors for the major subcontractors. We are pursuing a better understanding of what the $150 million buys and will conduct an analysis of the reasonableness of the estimate when that understanding is achieved.

Question. What are some of the key assumptions behind the proposal?

Answer. The Air Force has not received a formal description of the $150 million figure, nor an accounting of the key assumptions.

Question. What is the total cost of restarting the B–2 production line assuming funding was in place in fiscal year 1995?

Answer. First let me point out that the Air Force has no plans to buy more than 20 B–2s. According to contractor estimates, approximately $150M of long lead funding is required in FY95 to support a FY97 production authorization for additional B–2s. The second year of long lead in FY96 would require $500M to $700M prior to initiating production at the rate of two to three air vehicles per year in FY97 at a cost of $1.5B to $2.0B per year. Therefore, the total cost to restart the production line, using contractor estimates, is approximately $2.2B to $2.9B.

Question. Has the Air Force performed any sensitivity analysis on the numbers? (i.e. total costs for varying restart dates) If not, why not?

Answer. No, for two reasons. First, the Air Force has no plans to procure more than 20 B–2s, and second, we have never been presented with a sufficiently detailed proposal, just the contractor's estimate of the FY95 restart costs.

F–22 AIRCRAFT

Question. The Bottom-Up Review reduced the total acquisition program for the F–22 from 648 total aircraft to 442. When did the Air Force acknowledge this result of the Bottom-Up Review?

Answer. The Bottom Up Review did not reduce, nor did it specify any particular quantity of F–22s. The Review did determine that the Air Force would be composed of 20 fighter wings. The appropriate percentage of air superiority fighters such as the F–22 within the overall fighter force is 20 to 25%. This dictates an air superiority force of approximately 4 fighter wing equivalents. The Air Force is currently planning on 442 F–22s to support the four wing air superiority force. The Air Force began to officially reflect the reduction in quantity to 442 in January 1994.

Question. What is the revised production profile for the reduced program?

Answer. The production profile starts in FY97 and proceeds as follows: 4/4/12/24/36/48. 48 aircraft per year is the maximum production rate and continues until 2008 when the program achieves the total quantity of 442.

Question. What is the total weapon system cost of the acquisition program in then-year dollars?

Answer. The total costs for the F–22 program are: $18.879 billion for RDT&E, $52.528 billion for procurement, and $183.6 million for MILCON.

Question. What is the average unit recurring fly-away cost of the F–22 in then-year dollars for the 442 aircraft program assuming the production profile already cited?

Answer. The average unit recurring fly-away cost of the F–22 in then-year dollars for the 442 aircraft program is $97.9 million.

TRI-SERVICE STANDOFF ATTACK MISSILE (TSSAM)

Question. The Tri-Service Standoff Attack Missile (TSSAM) is designed to provide an autonomous attack capability against critical, high threat enemy facilities. The fiscal year 1995 procurement request before the Committee for TSSAM is $376.9 million for 48 missiles. This is the first year of proposed all-up-round production funding for the TSSAM. Last year the Committee provided $160 million of long-lead funding for TSSAM. Release of the funds is contingent upon a favorable long-lead decision by the Office of the Secretary of Defense (OSD). When do you expect this decision to be made?

Answer. The Long Lead DAB was scheduled for May 1994. USD(A&T) recently directed that a review be conducted to determine the stability of the missile design. The review will focus on the Engineering Change Order (ECO) process to help identify trends that are causing the developmental manufacturing and flight test delays. An interim status report is due to USD(A&T) in late March with a final briefing to be scheduled in early April 1994.

Northrop has experienced a series of manufacturing and schedule problems that have prevented them from completing the exit criteria, which are required prior to entry into long lead. When we are satisfied there has been adequate progress and we have more confidence in Northrop's readiness, we will request permission to enter into a long lead contract. We are projecting that Northrop will meet these criteria by Aug. 94. This would allow the obligation of 1994 procurement funding this year. To ensure that we can stay on track we will be requesting that approximately $35M of FY94 funds be reprogrammed from production to the RDT&E account in order to initiate three more cost reduction initiatives that we had planned to start after the production funding became available. The CRI program was initiated in FY93 using RDT&E funding and was planned to transition to production funding once the production decision DAB was completed. Moving this effort from procurement funds to RDT&E will retain the integrity of the CRI program and is not directly associated with the long lead decision.

Question. Has the Air Force demonstrated all the exit criteria for a favorable long-lead decision for TSSAM?

Answer. We have completed five of eleven of the long lead exit criteria. Shown below are the exit criteria that have not yet been satisfied and the program's assessment of the planned completion date. The last criterion to be completed is the Reliability Development Growth Testing/Air Worthiness Testing (RDGT/AWT) of the subsystem in August 94.

Incremental Prod Readiness Review—April 1994; Clear B–52 Flight Envelope—June 1994; End to End Free Flight—June 1994; Demo One Life Failure Free—July 1994; Probability of Arrival—August 1994; and RDGT/AWT—Subsystem—August 1994.

Question. It is the Committee's understanding that the Air Force intends to propose to OSD that the long-lead and low rate initial production (LRIP) decisions for TSSAM be combined as one. Does the Air Force proposal recommend deferring last year's crucially needed long-lead funding into fiscal year 1995 or accelerating the low rate initial production award based upon a recent series of unsuccessful test flights?

Answer. Combining long lead and LRIP is one of the options being considered. If this were to occur, the production decision would not take place until both the long lead and low rate initial production exist criteria are met in FY95. LRIP is not being accelerated, under any circumstances. The other option we are seriously considering, is to hold the long lead decision DAB review when Northrop has demonstrated the exit criteria required for long lead.

As stated earlier, Northrop has experienced a series of manufacturing and schedule problems that have prevented them from completing the exist criteria, which are required prior to entry into long lead. When we are satisfied there has been adequate progress and we have more confidence in Northrop's readiness, we will request permission to enter into a long lead contract. We are projecting that Northrop will meet these criteria by Aug 94. This would allow the obligation of 1994 procurement funding this year. To ensure that we can stay on track we will be requesting that approximately $35M of FY94 funds be reprogrammed from production to the RDT&E account in order to initiate three more cost reduction initiatives that we had planned to start after the production funding became available. The Cost Reduction Initiative (CRI) program was initiated in FY93 using RDT&E funding and was planned to transition to production funding once the production decision DAB was completed. Moving this effort from procurement funds to RDT&E will retain the integrity of the CRI program and is not directly associated with the long lead decision.

Question. What additional exit criteria needs to be demonstrated for an LRIP decision?

Answer. Following are the exit criteria for the LRIP decision with estimated completion dates.

Complete Subsystem Qualification—October 1994; Identify Critical Processes and Characteristics—December 1994; Complete Final Production Readiness Review—April 1995; Satisfy B–52 Development Test Objectives—May 1995; Reliability Assessment Curves—June 1995; and Certify Ready for OT&E with MPS—July 1995.

Question. What is the revised total inventory objective for TSSAM? Include both Air Force and Navy totals.

Answer. We will provide for this information to Congress under separate cover.

Question. What is the average unit flyaway cost for the program in then-year dollars? How does this figure compare to last year's estimate?

Answer. The current unit flyaway cost for the Air Force TSSAM variants is $1.633 million (in then-year dollars). This compares to the $1.340 million estimated in September of 1993. The increase in cost is attributed to a reduction in quantities, a slip in the unitary and Navy variants procurement start date, and the termination of the Army buy. Additionally, revised OSD inflation rates increased the unit flyaway cost in then-year dollars.

Question. At what rate will the TSSAM production line be facilitized?

Answer. Northrop's Perry, GA plant has the space and infrastructure to support a rate of 1,440 missiles per year. We plan to procure the tooling and test equipment to support a rate of 500 missiles per year, using one shift.

Question. Some of the pacing technical problems on TSSAM last year were the mission planning system (MPS) and the munition dispense system. Bring the Committee up to date on the development of the MPS and safety issues concerning the munition dispense system.

Answer. The mission planning system has been tracked as a high-risk area throughout the program. Last year's high visibility and emphasis have led to considerable improvement. The Air Force PEO issued Northrop an ultimatum to establish and implement an MPS get-well plan. The recovery plan was accomplished in July 1993. Northrop moved the development of the software to its Chicago Division and the Northrop/USAF MPS Critical Design Review was accomplished in January 1994. The only remaining technical issue is terminal area planning for the unitary variant. The 22 imaging infrared target planning algorithms are completely designed, with only eight of the 22 requiring additional testing. Our assessment is that Northrop will still not meet its contractual delivery date for operational mission planning software. However, as a result of the slips in the rest of the program, MPS is not impacting the flight test schedule at this time. As a risk mitigation effort, the Government issued a separate contract with the seeker contractor to develop a terminal area planner.

Concerning the safety issues of the munition dispense system; the original combined effects bomblet (CEB) dispenser design contained sensitive materials land low voltage initiators which are non-compliant with MIL–STD–1316. The Non Nuclear Munitions Safety Board did not approve the design for production. As a result, the Munition Dispense System is being redesigned. The Preliminary Design Review of the redesigned MDS was completed on 1 September 1993 and the Critical Design Review is scheduled for May 1994. The redesign is a low technical risk area. Estimated completion date for the reliability testing is April 1994 and for the air worthiness testing is August 1994.

Question. Will the present prime manufacturer retain responsibility for the MPS?

Answer. Northrop will maintain contractual responsibility for the TSSAM mission planning system performance through development. Northrop developed mission planning software will be hosted on existing and planned Air Force and Navy computer equipment. Options are being pursued with other contractors to develop risk reduction alternatives in case Northrop is not successful. The Northrop system will be used as an interim system until the new AF standard, Air Force Mission Support System (AFMSS), becomes available. The program office is about to release a separate competitive contract for a development effort to transition the Air Force version of the TSSAM mission planning software to AFMSS.

ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM) COMPETITION

Question. The Advanced Medium Range Air-to-Air Missile (AMRAAM) is an active radar guided, multi-target launch and leave missile compatible with all United States air superiority and multi-role aircraft. The fiscal year 1995 budget request for the Air Force portion of the AMRAAM program is $317.0 million for the acquisition of 412 missiles. Describe to the Committee the results of the fiscal year 1994 AMRAAM competition.

Answer. The FY94 contract award resulted in significant savings to the Air Force and Navy in terms of reduced procurement costs. The Unit Recurring Flyaway Cost which includes the hardware cost and Engineering Change Orders was reduced from $481K in FY93 to $355K in FY94. The Unit Procurement Cost (including initial and replenishment spares) was reduced from $615K in FY93 to $510K in FY94. As a result of the lower unit cost, the Air Force procured 258 additional missiles and the Navy procured 31 additional missiles. The total Air Force buy was 983 (not including 24 Seek Eagle missiles). The total Navy buy was 106 missiles. Procurement for Foreign Military Sales was 200 missiles. Additionally, both Hughes and Raytheon offered 10 years warranties (4 year requirement) and Mean-Time-Between-Failure (MTBF) for both contractors of 875 hours (450 hour MTBF requirement).

Question. Were the better than expected price results factored into pricing of the fiscal year 1995 budget request?

Answer. Yes. The AMRAAM Lot 8 contract was awarded on 5 Jan 94. The lower than expected price results had a great effect on the budget data for the remainder of the program. For this reason, the FY95 President's Budget submission was updated on 7 Feb 94 to include results of the FY94 contract award.

Question. What is the total Air Force inventory objective for AMRAAM to support 20 tactical fighter wings?

Answer. The Nonnuclear Consumables Annual Analysis (NCAA) inventory objective is for ——— missiles in FY01.

Question. How many medium to high probability FMS cases are there for the missile in 1995?

Answer. The medium and high probability FMS cases total 579 missiles. The table below shows the status of firm FMS cases with signed Letters to Offer and Acceptance (LOA) and initial funding. Also included are medium probability cases where the LOAs are inprocess or signed but no initial funding deposit has been made. All sales are the AIM–120B missile.

FMS country:	*Quantity*
Norway—signed LOA	30
Turkey—signed LOA	60
Korea—signed LOA	190
Fiscal year 1995 total firm	280
Finland—signed LOA, no deposit	120
Greece—LOA in process	50
Demark—LOA in process	28
Italy—LOA in process	90
Italy—LOA in process	11
Fiscal year 1995 potential additional sales	299
Fiscal year 1995 total potential sales	579

Question. Does the acquisition strategy call for maintaining two production sources through the life of the program? At what level does it make sense to "single up" the production source?

Answer. It is unlikely that we can maintain two sources throughout the entire life of the program. The current approach involves a yearly review of the strategy and continuation of the dual source strategy as long as it proves to be cost effective. The major consideration is whether the cost savings due to competition outweigh the added cost of maintaining the second source. The FY94 unit recurring flyaway cost was $131 thousands less than the previous year. This unit cost savings for each of the 1,082 missiles procured in FY94 amounts to a $142 million savings. This savings is well above the overhead cost of maintaining the second contractor. Some other considerations are: (1) annual procurement quantity versus that required to support two contractors, (2) sure capacity to meet both US and Foreign Military Sales requirements, and (3) product improvement achieved through second source completion.

In the past, the minimum sustaining production level was assessed to be 720 missiles per year (USAF, USN and FMS). We now know that the minimum production level to sustain two contractors is lower. The FY95 procurement Request for Proposal will task each contractor to bid on quantities below 250 missiles per year in order for us to gather data to determine what production level is required to sustain both contractors.

Question. What are the recent reliability trends on the missiles for both producers?

Anbswer. There are several ongoing programs that measure AMRAAM reliability. The primary program is the second Follow-On Test and Evaluation (FOT&E) conducted by the Air Force Air Warfare Center, Eglin AFB, FL. This program includes a Captive Carry Reliability Program (CCRP) on the F–15 and the F–16. The required Mean Time Between Failure (MTBF) for these Lot 4 and Lot 5 missiles is 450 hours. The F–16 CCRP has amassed 2,306 hours with seven anomalies. Preliminary assessments indicate that six of the seven anomalies are attributable to the aircraft power supply yielding a MTBF in excess of 2,300 hours. The F–15 CCRP program has 1,583 hours with one failure and a MTBF of just under 1,600 hours.

A second measure of reliability is the operational captive carry time logged in support of operations over Southwest Asia and Bosnia. These operations have amassed a captive carry time of over 143,000 hours with 75 failures for a MTBF of over 1,900 hours between the two contractors. This figure is consistent with previous results. Captive carry reliability for the missiles produced by Hughes is 2,313 hours MTBF (101,000 flight hours), whereas the Raytheon reliability is 1,348 hours MTBF (42,000 flight hours).

Question. Are deliveries to date from both sources current?

Answer. A total of 3,274 missiles have been delivered through February 1994. Hughes missile deliveries are 1,853 missiles, 13 missiles behind contract schedule. Raytheon is maintaining contract schedule with 1,421 missiles delivered through February 1994.

Question. The fiscal year 1995 budget requests for AMRAAM contains $70.4 million for production test and support. Provide detail for the record on all cost elements which comprise this total?

Answer. The breakout of the production test and support funding in then-year dollars (millions) is as follows:

Aircraft Contract Support	5.43
Prod Reliability Acceptance Testing	4.28

Prime Contractor Test Support	2.84
Production test	12.55
Support Contractors	13.11
Missile Lab & Guided Weapons Experimentation Facility Operations	4.77
Independent Software Verification & Validation	2.50
Hazardous Material/Ozone	4.71
ADA Software Conversion	10.86
Prime Contracts Production Support	4.44
Miscellaneous Projects	1.10
Production support	41.49
Hughes Technical Services Contract	15.84
Raytheon Technical Services Contract	0.52
Technical Services	16.36

THEATER AIR CONTROL SYSTEM IMPROVEMENT (TACSI)

Question. A total of $78.8 million, an increase of $33.5 million from the current fiscal year, is requested for the Theater Air Control System Improvements program. The program acquires state of the art equipment for combat effectiveness of command and control for tactical aircraft. What accounts for the significant increase for the fiscal year 1995 program?

Answer. The Modular Control Equipment (MCE) P3I program accounts for the increase in FY95. Because the program was unexecutable in FY94, the FY94 funds were moved to FY95. In FY95 and future years, CTAPS funding has been realigned into Theater Battle Management for better visibility.

[Dollars in million]

In FY 94, the following applied:	
MCE (Modular Control Equipment) P31	0
CTAPS (Contingency Theater Automated Planning System)	25.5
Mission Planning	19.9
Total TACSI Line	45.4
In FY95, the request is as follows:	
MCE P3I	55.9
CTAPS	0
Mission Planning	22.9
Total TACSI Line	78.8

Question. An important subprogram within the TACSI program is the "Mission Planning System Program" which procures equipment for planning combat and training missions. A total of $22.9 million is requested for this program. What increased combat effectiveness will be achieved for our pilots through the procurement of this equipment?

Answer. Mission Planning System (MPS) is an automated system which allows aircrews to use mission planning time more efficiently. Use of this equipment decreases combat aircrews planning time from 24 hours advanced notice prior to a mission to as little as one hour prior notice. It also enables aircrews to rapidly replan missions in minutes to account for the latest changes in battlefield, intelligence, and weather information. This capability did not previously exist.

MPS integrates data such as navigation coordinates, Global Positioning System (GPS) encryption codes, radio frequencies, target and threat locations, identification friend or foe (IFF) codes, electronic countermeasures (ECM) programming, weapon system computations/programming, and air drop calculation data. The aircrew handcarries this data in a transfer device to the aircraft and plugs it into the onboard avionics.

By 1999, MPS will replace all of the costly, aircraft unique "stovepipe" mission programming computers with one single common system for the entire USAF. Detailed mission planning will be accomplished so effectively that the aircrews can "what if" their game plan many times over to optimize combat effectiveness and mission success while negating enemy defenses. Rudimentary and administrative tasks will be automatically accomplished. MPS will provide aircrews who currently have computer based mission planners, a friendlier, reliable system with increased planning functions and far superior products to be used in the cockpit. MPS is also the unit level interface to the Theater Battle Management network [including the Combat Intelligence System (CIS), Wing Command and Control System (WCCS), and Contingency Theater Automated Planning System (CTAPS)] and thus allows a significant improvement in automated operational, weather, and intelligence data feeds to the warfighter.

Question. A new initiative in this subprogram is the procurement of 126 portable workstations at a cost of $5.4 million. Provide for the record the role and capability of the portable workstations. What is the inventory objective for the portable workstations?

Answer. Combat aircraft depart their assigned base on missions which last anywhere from 1 to 21 days. Frequently, the missions for these aircraft are changed during their time away from home. A portable unit will give aircrews access to most of the inherent capabilities of the ground based planning system anywhere in the world. Often, mobility operations call for landings at locations with no support facilities. A portable unit allows rapid replanning anywhere in the world at anytime. All KC–10s, KC–135s, C–141s, C–5s, C–130s, and C–17s will have portable planning units on board. The portable unit will also provide bomber and fighter aircraft the flexibility to fly with an automated mission planning system while their ground based system remains at the home base or deploys on support aircraft. The portable unit is well suited for less than squadron deployments anywhere in the world.

The scheduled inventory objective for the portable workstations is 1,209. Airlift, tanker, and support aircraft are currently programmed to receive one portable mission planning system for each aircraft in the squadron; fighter and bomber units will receive two portable systems per squadron.

EASTERN/WESTERN RANGE IMPROVEMENTS AND MODERNIZATION

Question. A total of $116.6 million is requested for improvements to the Eastern/Western Range Improvements and Modernization program. What are the major shortcomings of the equipment currently at the ranges?

Answer. Major shortcomings include deteriorating reliability, unsupportability, manpower intensiveness, and lack of responsiveness.

Range systems are obsolete, and are growing less and less reliable. Examples include telemetry systems with Mean-Time-Between-Failures (MTBF) of 13.5 hours, and radars with MTBF ranging from 68.8 hours to 149.2 hours—insufficient to support range operations and 4 to 10 times lower than achievable with modern instrumentation. Maintenance and repair man-hours have increased an average of 11% per year since FY 1991.

Range systems are increasingly unsupportable. An estimated 40% of system components are so obsolete there are no sources for spares; the parts simply are not made anymore. Therefore, both ranges have unique depot maintenance capabilities in place to engineer and fabricate parts needed to continue operations. This is extremely expensive and requires unique skills and experience, often vested in personnel due to retire within the next 5–10 years. Since their skills and expertise on obsolete components and technology cannot be replaced, the ability to sustain operations with existing systems will be lost.

The ranges are primarily manually operated. For example, at the Eastern Range, personnel must reconfigure up to 3000 cables by hand between each mission (much like the old telephone switch boards), rather than having an automated or software driven system to reconfigure the range. This requires large "standing armies" and is not very responsive to the range users.

Lack of responsiveness constrains space support to the military user and inhibits the international competitiveness of the U.S. commercial space industry. Because of the extensive manual reconfiguration required, two significant operations from different missions often cannot occur within two to three days of each other. This is a tremendous bottleneck to range scheduling as the ranges cannot easily go back and forth between launches, rehearsals, or other major range operations. System component failures due to decreasing reliability also contribute to poor responsiveness.

Question. The justification book mentions that the current instrumentation at these ranges is quite obsolete and very manpower intensive. What is the projected savings in manpower and operating costs once the current equipment is largely replaced?

Answer. Current equipment will be largely replaced by the Range Standardization and Automation (RSA) program. A cost analysis completed by Air Force Space Command personnel has shown the savings expected from implementation of RSA. When fully implemented, RSA will ultimately save an estimated 972 man-years per year due to modern, more efficient, less manpower intensive systems.

An estimated total of $592M in cumulative operations cost savings at both ranges between 1993 and 2005 is expected through completion of RSA implementation. Annual savings begin in 2003 and continue each year thereafter, inflated upward each year from a base of $10M in 2003. This includes direct savings resulting from implementing the more efficient RSA systems, as well as cost avoidance from not having to continue extensive maintenance and repair on the existing range systems.

Question. What would be the impact of upgrading the equipment at ranges in terms of time required between launches for range configuration time?

Answer. On the Eastern Range the reconfiguration time will be reduced from over 48 hours today to less than 4 hours by FY 1999. For the Western Range, it will be reduced from 24 hours today to less than 4 hours by FY 2003.

CHEMICAL/BIOLOGICAL DEFENSE PROGRAM

Question. The backup material in the justification book indicates that in FY 1995 various subprograms of the Chemical/Biological Defense Program will be procuring a very small fraction of the total inventory requirements of the program. How high a priority are you placing on the Chemical/Biological Defense Program?

Answer. The Air Force does place a high priority on Chemical/Biological Defense Equipment. Several factors reduced FY 1995 equipment buys to the current level. In FY 1993 the Air Force canceled the Transportable Collective Protection System (TCPS) program. This allowed us to reallocate $13.6 million for additional quantities of the Aircrew Eye/Respiratory Protection System and radiation indication and detection equipment. Cancellation of TCPS allowed us to prudently reduce FY 1995 Chemical/Biological Defense Equipment funding to an executable funding level. Sufficient funds are programmed in subsequent years to buy out the inventory objectives for all the items we are procuring in FY 1995.

Question. Provide for the record the FY 1995 quantity request for the various subprograms and the inventory objective of each subprogram?

Answer.

Item	FY 1995 request	Inventory objective
Aircrew Eye/Respiratory Protection:		
Mask/Hood	1,069	33,980
Blower	1,000	33,980
Intercom Unit	1,000	33,980
Passive Anti-drown Device	3,820	33,980
Disposable Eye Respiratory Protection	26,767	400,000
Multi-function Radiac	540	2,200
Automated Mustard Agent Detector	95	1,200

Question. Provide for the record the date at which the inventory would be reached for the various subprograms based on the current five year defense plan.

Answer.

Inventory Objection seached

Item	*Fiscal year*
Aircrew Eye/Respiratory Protection:	
Mask/Hood	1996
Blower	1996
Intercom Unit	1996
Passive Anti-drown Device	1996
Disposable Eye Respiratory Protection	2000
Multi-function Radiac	1996
Automated Mustard Agent Detector	1997

Question. What are the shortcomings of the chemical/biological defensive equipment currently in the inventory.

Answer. Present individual protective equipment is thermally burdening, does not allow for tactility critical in some mission areas, and restricts vision and movement. Present detection capability does not allow for automatic detection of chemical agents and no equipment-based capability exists to detect biological agents. Present radiation detection equipment is outdated and no longer logistically supportable. The Air Force currently has no capability to decontaminate sensitive electronics or the inside of aircraft.

ENVIRONMENTAL PROJECTS

Question. $23.6 million is requested for "Environmental Projects" to procure equipment necessary to support environmental compliance laws and environmental goals. As you shut down various Air Force bases, are you able to transfer environmental compliance equipment from bases being shut down to those bases continuing operations?

Answer. Yes. The Air Force has moved environmental equipment from closure bases to bases which will stay open. The equipment amounts are minimal because the Air Force environmental program required negligible equipment funds prior to the start of the pollution prevention program in FY94. Consequently, closure bases have historically received minimal equipment funding and will receive minimal funding now.

Question. Provide for the record the extent to which the equipment procured with the requested funds is for compliance with laws and regulations as opposed to being procured to achieve general environmental goals?

Answer. The majority of the FY 95 environmental equipment requirements are to support the Air Force's Pollution Prevention program. The Air Force's Pollution Prevention program includes requirements stipulated by Executive Orders, DoD and Air Force goals, and meets the requirement of the Pollution Prevention Act of 1990, which establishes pollution prevention as a national goal.

Question. The fiscal year 1996 budget for the "Environmental Projects" program projects a rather significant decrease to $9.4 million. Does this significant decrease indicate that you will have largely attained your objectives for this program with the fiscal year 1995 program?

Answer. The decrease in the FY 96 "Environmental Projects" budget indicates that we will have substantially met our objective of reducing our dependence on Ozone Depleting Chemicals (ODC) in our facilities infrastructure. Other "Environmental Projects" requirements reflect a programmatic spread over the FYDP to meet several FY 99 pollution prevention (PP) goals. The reduced equipment budget also reflects the longer time periods given to accomplish other PP goals and objectives.

[CLERK'S NOTE.—End of questions submitted for the record.]

WEDNESDAY, APRIL 20, 1994.

AIRLIFT PROGRAM

WITNESS

GEN. RONALD R. FOGLEMAN, USAF, COMMANDER IN CHIEF, U.S. TRANSPORTATION COMMAND

INTRODUCTION

Mr. DICKS. The Committee will come to order.

Today the Committee welcomes General Ronald Fogleman, Commander in Chief of the U.S. Transportation Command, to testify on the present state and future requirements of the Defense Department airlift system.

Many important decisions still need to be made regarding the most efficient size and composition of the airlift fleet and the Committee looks forward to hearing your advice on this important subject.

General, your statement will be made part of the record. Please summarize and we will then proceed to questioning.

SUMMARY STATEMENT OF GENERAL FOGLEMAN

General FOGLEMAN. Mr. Chairman and members of the committee, I am pleased to be here today to discuss America's defense transportation system and specifically the airlift system.

My prepared statement was not limited to airlift issues because the defense transportation system is better viewed as a whole integrated balanced system, but today I will be discussing one element of it.

As you know, the surface, the prepositioning and sealift elements of the defense transportation system are in relatively good shape. This positive report on the organic or government-owned sealift is quite a change from just a few years ago.

In 1989, my predecessor, once removed, sat in this chair and told you that sealift was the weak link in the defense transportation system. Because of a strong commitment from this and other defense committees, we have made the necessary investments and begun to improve our sealift capability.

It is essential that we continue to properly fund our modernization and operations and maintenance programs, but the bottom line is that organic sealift is now on the path to recovery. I cannot say the same for airlift. That is why we are here today.

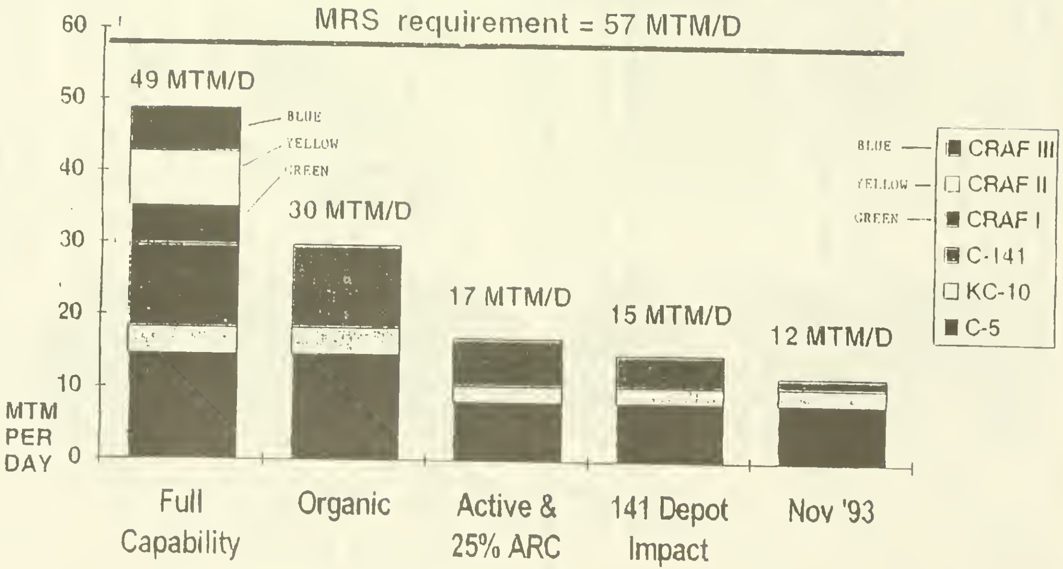
Recently, you have had two assessments of airlift, one, a relative doom and gloom; the other more positive. Last month, General Joe Hoar told you that the airlift system was broken. Shortly thereafter, Secretary Widnall said the airlift system was ready to go to war.

On the surface, these statements sound contradictory. I will tell you, however, that they are not.

To assist in presenting the issues, I have provided the air mobility issues handout that you have by your position. Information contained in this pamphlet should help us to understand this apparent contradiction.

First of all, we need to review the national airlift policy. That is, by design in both airlift and sealift, we are directed to minimize our peacetime organic capability and to depend, to the maximum extent possible, on the contributions of the commercial sector and our Reserve forces. This is not always well understood. But with that as a backdrop, I ask you to turn to Chart 1 in the reference pamphlet.

FY94 ACTUAL CRISIS CAPABILITY



POWER PROJECTION 1-2

CHART I

General FOGLEMAN. What you see on that page is the capability—on the left-hand side, you see what is our full capability in terms of million ton miles per day of the airlift system.

I will in a few moments comment on some of the problems associated with using million ton miles per day as a measurement, but in the aggregate, I would like to dissect this chart for you.

What that full capability says is that in wartime, we would have 49 million ton miles of airlift capability. If you look at the top one-third of that capability, that is the green, yellow and blue blocks, that is contributed by the Civil Reserve Air Fleet, so it is not available to me in peacetime.

If you go down and you look at the remaining two-thirds of that capability, you should remember that 50 percent of that organic capability exists in the Air National Guard and the Air Force Reserve. So I do not have all of that capability either.

Additionally, when you look at the chart, you should remember that this is cargo only and that my most demanding requirement in many scenarios is passengers and I rely very, very heavily on the Civil Reserve Air Fleet to provide that.

For instance, in addition to the 32 percent of my cargo capability that the CRAF provides, it provides 93 percent of our total passenger-carrying capability.

To put that into more relevant terms, if we were looking at support of the Korean War scenario, we have a requirement to transport over 450,000 troops into that theater of operation.

So you can see that a very large percentage of that would be carried on the CRAF. This chart shows you that if I only depend on my organic capability, I go down to 30 million ton miles.

When I factor out my Guard and Reserve, remember, 50 percent of my organic lift capability comes from Guard and Reserve resources, but day-to-day, because we have Guardsmen and Reservists who volunteer to come out and fly line missions, we put in a 25 percent factor.

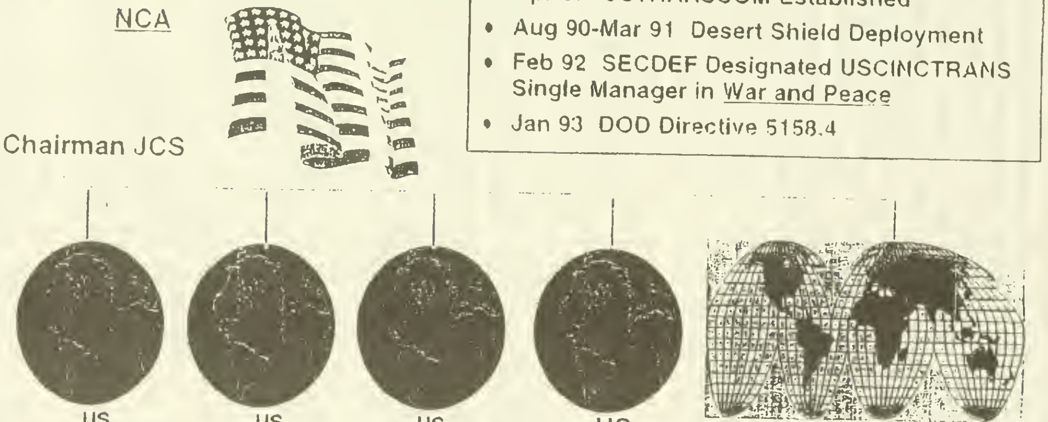
So basically I think that on a day-to-day basis, if everything was operating properly, I would have about 17 million ton miles. But if you look at what the impact of my C–141 fleet condition and my C–5 depot situation is today, I have about 15 million ton miles of capability out there.

If you go back to November 1993, the time frame that General Hoar was talking about, this was a period of time in which we had the bulk of the C–141 fleet grounded because of wing cracks. In fact, we were operating our airlift system during that period of time with as few as 50 C–141's. Therefore, I had about a 12-million-ton-miles-per-day capability. So this is a kind of comparison between wartime and day-to-day capability.

Additionally, we know that we operate with a greatly reduced capability day to day in peacetime, so we have in position procedures whereby the various Commanders in Chief are supposed to forecast their known airlift requirements so that we can schedule this somewhat limited capability. If I could ask you to turn to Chart 2 at the other end of the clip, I would further like to address this issue of airlift capability.

THE UNIFIED COMMAND STRUCTURE

- Sept 86 Goldwater-Nichols
- Apr 87 USTRANSCOM Established
- Aug 90-Mar 91 Desert Shield Deployment
- Feb 92 SECDEF Designated USCINCTRANS Single Manager in War and Peace
- Jan 93 DOD Directive 5158.4



NCA

Chairman JCS

US Space Command

US Special Operations Command

US Strategic Command

US Transportation Command

US Pacific Command

US Atlantic Command

US Southern Command

US Central Command

US European Command

POWER PROJECTION

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CHART 2

General FOGLEMAN. I know that this committee is well versed in Goldwater–Nichols and it is well versed in the JCS and the unified command structure, but what is not so well understood sometimes is that there are nine unified CINCs. There are five who are geographic CINCs. They are responsible for a specific AOR, a limited AOR, if you will. In some cases, that limit is quite large.

Admiral Chuck Larson looks after half the world in the United States Pacific Command. These are CINCs who are supported by the four CINCs on the left: U.S. Space Command, Special Operations, STRATCOM and TRANSCOM, have worldwide responsibility. We have global responsibilities so we have the responsibility to divvy out our capabilities among these five CINCs. So we find ourselves in a situation where, I think appropriately so, our Commanders in Chief are a little bit egocentric in a professional sense.

They ought to be. Their area of the world ought to be the most important thing on their agenda. In my case, the defense transportation system is the most important thing on my agenda. But I have to divvy that up among five regional CINCs, so while things are going on in the Central Command region, other things are going on in other parts of the world.

This is the chore that I have as I try to meet day-to-day requirements with a non-mobilized air and sealift capability.

I am not happy when my customers are not happy or fully satisfied. But as I said, in a major crisis, we would have access to CRAF. We would fully mobilize our Reserve components and we would waive certain maintenance restrictions and flight crew limitations that apply in peacetime.

We did this in the Gulf War and expect to do it in the future.

Was General Hoar right? Yes. From his perspective, we did not meet all his requirements. However, so was Secretary Widnall because faced with a major contingency that 15-million-ton-mile capability on the right side of your chart would jump to 45 million to 49 million ton miles on the far left.

In other words, comparing peacetime and wartime airlift capabilities is kind of an apples-to-oranges fallacy.

I have said our airlift system is not broken, but I will tell you it is hurting and hurting badly, particularly when you look to the future.

One other issue that I would like to address relative to this, is the million-ton-miles-per-day measurement of capability. This is a useful shorthand term that gets bandied about, but it is not what war-fighting CINCs are concerned about.

If I could use a sports analogy. In football, a lot of folks keep track of passes completed, rushing yards gained, turnovers, kickoff return yardage, but in the end, the only thing that matters is most points on the scoreboard when the game is over. The other measures are useful tools, particularly when you are planning for the next game, but they are not the ultimate yardstick.

The same is true for million ton miles. It can be a useful tool to measure potential capability, but the ultimate measure of capability, and the measure that the war-fighting CINCs are interested in, is throughput.

A simple million ton mile figure does not take into consideration outsized and oversized cargo. If it were our only yardstick, the answer to our airlift problems would be easy. We would buy a fleet of wide-bodied commercial aircraft. That is why America's small package carriers buy them; maximum ton miles for the dollar.

That is why CRAF is such a cost-effective program. It provides us capability to move passengers and bulk cargo in the most efficient manner. But we do have military requirements, particularly for outsized cargo, air-drop hazardous material, and the ability to operate in the airfields of less than large intercontinental standards.

These provide us unique challenges and these challenges cannot be accurately measured by million ton miles. That leads us to this requirement for a core airlifter.

Today our core airlifter is the C–141. It is a 28-year-old aircraft. It was designed in the 1950s, built in the 1960s, it was stretched in the 1970s and flown hard.

What is important, Mr. Chairman, is that when we got ready to design that airplane, we went to our customers, the United States Marines and the United States Army.

We asked them "What kind of equipment do you want us to haul on this aircraft when it is built?" They told us they wanted us to haul things like M–15 Jeeps and M–113 armored personnel carriers, and 2.5-ton trucks.

They wanted us to haul the equipment they had then and that was coming down the road in the 1960s and 1970s. So we built an airplane to do that and it has been a great airlifter. But that airplane was designed to last 30,000 hours and we were going to replace it in the 1980s.

So we went to these customers at that time and asked what kind of equipment do you want us to haul in the 1980s and 1990s? They were becoming more lethal. They wanted more lethality, more mobility on the battlefield.

They said "We want to go from jeeps to HMMWV's. We want to go to armored fighting vehicles like the Bradley." So we built or designed an airplane to carry this equipment and they have subsequently gone out and bought it.

So now what we find is the airplane we designed for that, the C–17 has not come on line and the customers have this new equipment.

So we have a mismatch between what we were trying to haul and the fleet that we have to haul it. That is one of the reasons that we have a problem with spending much more money to keep the C–141 around.

With the C–141, as it is, we will spend about $2 million on each aircraft over the next 10 years to keep them viable, but it ought to go away at the end of 10 years because it is only an oversized and bulk airlift carrier and we can do that in more efficient ways.

The commercial wide-body offers some possibilities as an alternative to that. But we have to have this core capability.

So during the past year, in summary, at the direction of Congress, considerable effort has gone into the examination of this issue of how do we best satisfy the airlift requirement. I would tell you that all of DOD's analysis conducted over the past year has led to three general conclusions.

The first is that the Bottom-Up Review confirms that the need is for more airlift in a major regional contingency.

Second, is that the Joint Requirements Oversight Council, the so-called JROC, confirmed that the C–17 design meets requirements for military airlift.

The third conclusion is that a mix of C–17 and commercial wide bodies or C–5's may be an acceptable alternative to a pure C–17 fleet. The preferred mix largely depends on the performance capability of the C–17 and what it actually achieves. That is why it is so important that we have this opportunity to go through this probation period over the next 18 months to see what it is that this aircraft will really do.

Thank you for the opportunity to make these opening statements.

[The statement of General Fogleman follows:]

Statement of

General Ronald R. Fogleman, USAF
Commander In Chief
United States Transportation Command

Before The
House Appropriations Defense Subcommittee

20 April 1994

United States Navy Military Sealift Command

Military Traffic Management Command

Air Mobility Command

Executive Summary

Readiness--the ability to successfully conduct strategic mobility missions assigned by the National Command Authorities--is the top priority of the United States Transportation Command. This statement, the USCINCTRANS' annual report to Congress, focuses on our efforts to maintain readiness and required capabilities. It provides three perspectives on the Defense Transportation System.

First, it examines the DTS from a strategic perspective by discussing the new challenges, both external and internal, we face in the post Cold War era. This environment includes: reduced budgets, aging equipment, increased lift requirements from the combination of a CONUS based force and the increase in size and weight of rapid deployment units, and sustained periods of high operations tempo. Extended periods of high operations tempo is particularly challenging to our active duty forces since two-thirds of our overall lift capability resides in the reserve components and commercial sectors.

Second, it examines the DTS from a programmatic perspective, outlining key initiatives that are included in the Service POMs and the President's Budget. Our highest priority program is the acquisition of a new core airlifter capable of the intercontinental lift of troops and cargo (including outsized cargo), air refueling, and austere airfield operations in both air land and air drop modes. Without a new core airlifter, USTRANSCOM will not be able to meet the future transportation demands of America's National Security Strategy. Other top priorities include:

- Continued support for our sealift modernization programs
- Adequate O & M funding for sealift readiness
- Legislative authority for a Ready Mobility Force
- Full funding for the 60K aircraft loader program
- Continued support for transportation command and control systems

Third, it takes a systemic perspective by discussing our plans for reengineering the DTS--a reengineering that will prepare us to meet both the transportation and fiscal challenges of the post Cold War era. One of the tools we have been provided for reengineering is our designation as a National Performance Review "Reinvention Laboratory." We are not interested in a slow, evolutionary process that gave us the present system--a system primarily designed from the Services' perspective. Service staffs are no longer responsible for fighting America's wars--unified combatant commanders are. Therefore, our efforts are guided by two inviolable objectives: reengineer the Defense Transportation System to provide the strategic transportation support required by the war fighting CINCs, and do so at the best value to the American taxpayer. Our goal is a fully integrated, joint, intermodal transportation system providing seamless transition between peacetime and wartime operations.

Finally, innovative strategies, state of the art technology and improved efficiency will be of little use without well-trained, motivated soldiers, sailors, airmen, and marines. It has been demonstrated time and time again-- during JUST CAUSE, DESERT SHIELD, DESERT STORM, and RESTORE HOPE--people make the difference. To maintain the readiness of America's Defense Transportation System, we must continue to attract and retain the highest quality men and women. We must provide them with the tools and training to do their job and a quality of life that allows them to serve with pride and dignity.

I. Introduction

Readiness--the ability to successfully conduct strategic mobility missions assigned by the National Command Authorities--is the top priority of the United States Transportation Command and the central theme of this statement. The United States Transportation Command (USTRANSCOM) and our Components, Military Traffic Management Command (MTMC), Military Sealift Command (MSC), and Air Mobility Command (AMC), provide this nation the core capability for strategic transportation in peace, in war, and across the broad spectrum of post Cold War operations that lie in-between. This joint team, along with our partners in the Department of Transportation and the commercial transportation industry, operate and maintain America's Defense Transportation System (DTS).

It is no hyperbole to call USTRANSCOM a command with global responsibilities. In the past year we operated our ships and planes into 180 countries. In other words there were only seven countries that we did not visit, including Libya, North Korea, Iran and two countries that contain neither air nor seaports. The men and women who operate this global transportation system--active duty, Reserve, Guard, civilian, and our commercial partners--played key roles in support of contingencies, exercises, and humanitarian operations here at home and around the world.

In October, when fighting erupted in southern Mogadishu, our air mobility team moved light infantry soldiers and a mechanized company with M-1 tanks and Bradley Fighting Vehicles from bases in New York and

Georgia direct to Mogadishu. Using four separate aerial refuelings from KC-135s and KC-10s, the C-5s flew nonstop to Mogadishu in only 17.5 hours. Our dependence on reserve components, even during peace time operations, was demonstrated during this rapid deployment when nine of the first eighteen C-5 missions were flown by reserve crews. This "Total Force, tanker-air bridge," along with one of our Fast Sealift Ships that made the voyage in only 12 days, moved more than 5,700 soldiers and their equipment from the 24th Infantry Division and the 10th Mountain Division to rapidly reinforce U.S. troops.

Our support of U.S. and U.N. forces in Somalia gained considerable attention in the media; however, it represented only a small portion of our activities during the past year. In the former Yugoslavia we supported the United Nations Protection Force. Ships under charter to MSC delivered 5,000 tons of cargo while AMC coordinated the airlift of more than 1,000 personnel and 150 tons of cargo. We also supported Operations PROVIDE COMFORT (Turkey), PROVIDE TRANSITION (Angola), PROVIDE HOPE (former Soviet Union), U.N. Peacekeeping forces in Cambodia, counter drug missions in Latin America, the Joint Staff exercise program including TEAM SPIRIT (Korea), COBRA GOLD (Thailand) and BRIGHT STAR (Egypt), and relief missions here at home including those in response to the recent earthquake in Southern California. While there was no such thing as a "typical week," it is was not uncommon for the men and women of USTRANSCOM to manage 1,000 air mobility missions, 75 ocean going ships, and conduct military operations in 27 seaports during any given week.

This high level of operations tempo (OPTEMPO) was not, however, unique to 1993. In fact, USTRANSCOM and our Components, both the people and equipment, have had little rest since Operation JUST CAUSE (Panama) in 1989. For many of our men and women it has meant long days, harsh conditions in remote locations, and extended separations from families and friends. This stress has been further compounded by the climate of uncertainty and insecurity that exists throughout our post Cold War military.

Our aging equipment, particularly in the airlift fleet, has also been pushed to the limit. Due to structural problems and a depot backlog, the C-141 fleet daily availability rate was 35 percent lower in 1993 than in 1992. More than 58 percent of our 40K aircraft loaders, the backbone of our materials handling equipment (MHE) fleet, have developed serious structural cracks and are in their second overhaul cycle. Fiscal constraints have limited our ability to maintain sufficient spares throughout our air mobility fleet, and the reduction in forward deployed forces has reduced the en route infrastructure used to support major deployments.

The bottom line on readiness for the DTS is clear. The demands of continuing high OPTEMPO, combined with aging equipment and reduced budgets, create an environment that threatens the readiness of America's Defense Transportation System. As the Commander-in-Chief of USTRANSCOM, it is my responsibility to identify the factors that threaten the readiness of the DTS, and it is my responsibility to develop plans and programs that will ensure readiness and required capabilities are maintained.

This statement, the USCINCTRANS' annual report to Congress, focuses on our efforts to maintain readiness and required capabilities. It provides three perspectives on the DTS. First, it examines the DTS from a strategic perspective by discussing the new challenges, both external and internal, we face in the post Cold War era. Second, it examines the DTS from a programmatic perspective, outlining key initiatives that are included in the Service POMs and President's Budget. Third, it takes a systemic perspective by discussing our plans for reengineering the DTS--a reengineering that will prepare us to meet both the transportation and fiscal challenges of the post Cold War era. The Chairman of the Joint Chiefs of Staff will soon submit his Annual Force Readiness Assessment, including a report on the present Defense Transportation System. Therefore, a separate section dedicated to readiness assessment is not included in this statement. Readiness, however, is the central theme of this statement and will be addressed in all sections.

II. New Challenges

The post Cold War security environment provides many new challenges to USTRANSCOM and the Defense Transportation System. In addition to the challenges faced by all CINCs--reduced budgets, less forward deployment, proliferation of high tech munitions and weapons of mass destruction--USTRANSCOM also faces some very unique challenges. As a command that depends on the commercial transportation sector for a significant portion of our total capability, the changes taking place in the domestic and international business communities also threaten the readiness of the DTS.

As we continue to examine the future security environment with various studies, including the Mobility Requirements Study / Bottom Up Review (MRS/BURU), it is clear that strategic mobility will increasingly become the linch pin in our national security strategy. Just 10 years ago we had more than 500,000 U.S. military personnel forward deployed in Europe and throughout the Asian theater. Before this decade is over, we are likely to see this figure cut by two-thirds. In other words, when America chooses to respond with military force, the vast majority of this force will have to be deployed and sustained from the continental United States (CONUS).

These major reductions in forward deployed forces also reduce the en route infrastructure, air bases, and military port facilities that support long range deployments. Lack of en route support facilities not only reduces rapid deployment capabilities, it also limits the options of the National Command Authorities during crises. If we had lost access to Lajes (Azores) during the DESERT SHIELD deployment, it would have reduced our airlift throughput by 3 percent. Or, if we had been denied access to both Lajes and Torrejon (Spain), it would have reduced the throughput by 29 percent. Worse still, if we had lost access to Lajes, Torrejon and Rhein Main (Germany) it would have reduced our throughput by 46 percent and increased force closure time in Southwest Asia by 48 percent.

To put this in perspective--our presence at Torrejon has currently been reduced to a caretaker force of 10 people, and we will have significantly reduced our presence at Rhein Main by the end of 1994. Additionally, we no longer have routine peacetime access to Goose Bay (Canada), Zaragoza

AB (Spain), Hellenikon AB (Greece), and Clark AB (Philippines). Each of these bases has served as key en route facilities during previous deployments.

With a strategy based on power projection and CONUS based forces, we will need sufficient en route infrastructure. In some cases this means fully operating U.S. bases on foreign soil. In others it means access to "bare base" or commercial facilities, at which we have limited presence, or "iron clad" rights of return agreements to those facilities we do close. As America continues to reduce the size of its military force, it is critical that those who are charged with the responsibility to fight and win wars play the principal role in determining how forces are positioned and structured. As future decisions are made on base closures and force realignments, both here at home and overseas, we must ensure that these decisions are made from the perspective of the war fighter--the unified combatant commanders.

The lessons learned from DESERT SHIELD and DESERT STORM are another factor that will affect the future challenges to the DTS--in particular, the lessons learned by our future adversaries. With the ability to rapidly close a major force a key element in our new strategy, a future adversary may not allow us the luxury of six months to deploy our forces. In other words, the importance of early-surge capability (airlift, afloat prepositioning, and fast sealift) is likely to increase.

Another area of concern for the DTS that has changed since the Cold War and even the Gulf War is access to world class air and sea ports. Lack of or loss of such facilities would significantly increase closure times. For instance, off loading a heavy armored division from eight Fast Sealift Ships in a super port such as Ad Damman could be accomplished in less than two days. This same operation would require more than two weeks in Mogadishu or more than a month (depending on the weather) if no port were available and we used a Joint Logistics Over the Shore (JLOTS) operation.

The restructuring and modernization of America's military forces, particularly the Army, is also providing us with new strategic lift challenges. During the past decade, our largest customer, the U.S. Army, has significantly increased the lethality and the weight of its combat units. The three Army division types usually considered eligible for air deployment have increased in weight between 36 and 55 percent (light infantry divisions 11K tons to 15K tons, airborne division 16K tons to 22 K tons, air assault divisions 22K tons to 34K tons). Army equipment size has also increased during this period. In the early 1980s a C-141 could carry 17 of the Army's light utility vehicles (M151 Jeep). This four-passenger utility vehicle has been replaced by the larger M998 HMMWVS. Today, a C-141 can only carry five HMMWVS. From the Army's perspective the lift capability of a C-141 is reduced. From USTRANSCOM's perspective it is an increase in lift requirements for C-141 equivalents. These increases in bulk and total weight represent modernization and increased combat effectiveness, but they also increase all modes of lift requirements, most significantly, airlift.

The military challenges of the future are many; however, the DTS must also adapt to the rapidly changing domestic and international business environments. One of my greatest concerns in this regard is the highly competitive international transportation environment, which is forcing all operators to trim down and reduce excess capacity. In the past we have relied on the robust availability of militarily useful aircraft and ships; however, tomorrow's successful (surviving) commercial carriers will have little or no excess capacity to offer. At a recent meeting with CEOs from the maritime industry, I was informed that container ships are "in the system 365 days a year." To compete and survive ships must produce revenue everyday--there is no scheduled down time. Routine maintenance is conducted while underway. This competitive environment also exists in the airline industry where many of America's carriers are "operating on the edge." Some are now reluctant to participate in the Civil Reserve Air Fleet because their survival could be threatened by an activation of this program. As a unified command that looks to the commercial sector for a significant portion of its capability, these trends are cause for concern.

Another strategic factor that changed as we moved from the industrial era into the information era was highlighted in a recent Rand Study (DRR-440-A). Throughout military history transportation has been relatively expensive while weapons and ammunition were relatively inexpensive. This paradigm is shifting. In World War II it took hundreds, maybe thousands, of "dumb" bombs to destroy a hardened target. These weapons were cheap to build and stockpile, but relatively expensive to transport by air from the U.S. to the European or Asian theaters. Today, an F-117 carrying one laser-guided, 2,000 pound bomb can destroy a hardened target, or an Apache helicopter firing a laser guided Hellfire missile can get a "first shot kill" on a T-72 tank. The cost of these weapons has grown considerably, but the cost of transporting them has actually been reduced. In other words, it is becoming more cost effective to have fewer, but smarter weapons as long as we maintain the capability to deliver them where and when they are needed.

This change in logistics doctrine is discussed in the Chairman's FY94 Force Readiness Assessment to Congress. Previously, DoD maintained large stockpiles within each theater. Today, the requirement to sustain two nearly simultaneous regional conflicts, combined with budgetary pressure to minimize our investment in war reserve inventory, has required DoD to cut inventories and distribute materials into common user stockpiles to support multiple theaters. The Chairman's report states this CONUS-based, smaller (less expensive) inventory should meet the demands of two nearly-simultaneous regional conflicts; however, it concludes the capability to rapidly transport these stocks between theaters and maintain visibility of materiel while in storage and transit (total asset visibility) is essential to the success of this new logistics doctrine.

There are many changes and paradigm shifts to consider as we reengineer America's defense forces. Changes in the international security environment, changes in technology, and changes in doctrine require the defense transportation community to reexamine our systems and doctrines. We must look for ways to improve our effectiveness while reducing the cost. We must build a better defense transportation system--one that is designed to meet the needs of the combatant commanders at the best value to the American taxpayer. To do this we must identify and understand the changes that have occurred with the end of the Cold War, the beginning of the information age, the migration to a global, interdependent economy and the continuing expansion of the international business community. All of these factors will shape the DTS of the future.

We must also appreciate those factors that will not change. America will remain an island nation--separated by great distances from many of our allies, adversaries, and national security interests. Our response to crises, therefore, will be enhanced or limited by the capabilities of the DTS. There are no technological revolutions on the horizon that will change our need for an integrated, balanced transportation system of sea, air and land assets. Large-scale deployments, such as DESERT SHIELD/STORM or what is now called a major regional conflict (MRC), will continue to require three integrated yet distinct elements: surface, airlift, and sealift.

The first stage of a major operation is what we call "fort to port" operations, the movement of people, equipment, and supplies to air and sea ports of embarkation (POEs). Airlift will then deliver the first units to the ports of debarkation (PODs) in the theater of operations. In many scenarios, such as JUST CAUSE and DESERT SHIELD, the only forces to arrive during the first week will be those delivered by airlift. In the smaller, rapidly unfolding contingencies, air mobility will provide the bulk of our response forces. However, in larger contingencies up to 95 percent of all tonnage will come from the sea.

The sealift operation can further be divided into three phases: afloat prepositioning, surge shipping, and sustainment. During DESERT SHIELD/STORM and RESTORE HOPE the first heavy forces (armored vehicles and heavy artillery) arrived on prepositioned ships. Surge shipping, which is primarily composed of organic ships (government owned) such as the Fast Sealift Ships (FSS) operated by MSC and the Ready Reserve Force (RRF) ships maintained by the Maritime Administration (MARAD), deliver the majority of unit equipment. The third phase, sustainment, begins early in the deployment timetable and carries the "beans and bullets" to the deployed forces. During DESERT SHIELD/STORM the U.S. flag liner industry played a key role in this sustainment lift.

This complex lift scenario was best demonstrated during the DESERT SHIELD deployment. The first forces to arrive in Southwest Asia, some arriving on the same day the deployment began ("C" day), were those delivered by airlift. On C+8 the first prepositioned ship arrived from Diego Garcia in the Indian Ocean followed on C+20 by a Fast Sealift Ship from the East Coast of the United States. On C+33 the first Ready Reserve Force ship and the first commercial charter ship arrived. The various elements of this complex scenario must be fully integrated to maximize throughput. Airlift must deliver personnel in time to marry up with heavy equipment as it is off-loaded from sealift ships. If the troops do not arrive on time, the ports and staging areas will become gridlocked. However, if the troops arrive too soon, they will have no equipment or supplies.

One common thread throughout these air, land, and sealift modes of transportation is our dependence on the commercial sector. During the DESERT SHIELD deployment virtually all of our surface movements within CONUS were conducted by the commercial sector. In the airlift mode, the commercial sector provided 64 percent of our passenger lift and 26 percent of our cargo tonnage. For sealift the U.S. commercial liner fleet carried 29 percent of all sealift tonnage utilizing a maximum of 30 percent of their slot capacity to serve our sustainment sealift requirements. This is an element of the DTS that will not change in the post Cold War era. Using America's commercial lift capability--air, land, and sea--to the maximum extent possible will continue to be a cornerstone of our command philosophy.

Likewise, our dependence on the reserve components will continue into the 21st Century. Today, more than half of our organic capability resides in the reserve components, and I do not expect this percentage to decrease. While this dependence on the reserve component and commercial sector will remain a cost effective solution, it does create a problem for our active duty forces when we are asked to maintain a high, peacetime OPTEMPO for an extended period, particularly for our airlift forces.

One measure of airlift capability is millions of ton miles per day (MTM/D). The current "advertised" capability for AMC is 49.2 MTM/D: however, to reach this figure we must completely activate the reserve component and the full Civil Reserve Air Fleet (CRAF Stage III). By design, without these two extraordinary actions by the President, our non-mobilized capability is less than 17 MTM/D. In other words, extended periods of high OPTEMPO during peacetime places great strain on our active duty forces and limits our capability to respond to non-mobilized, surge operations.

And there is one other factor that will not change--when a crisis begins, when our security interests are threatened, when disaster strikes, America's ability to respond will depend on the readiness and capabilities of the Defense Transportation System. Strategic mobility will remain "the first weapon of choice in peace and in war."

III. Key Programs

USTRANSCOM

USTRANSCOM is barely seven years old, but in the past seven years it has grown from a small peacetime planning staff to a major unified command with full responsibility for strategic transportation during both peace and war. As this command has grown and matured, we have identified the key systems needed to provide quality service to our customers at the best value to the American taxpayers.

Command and Control

As our nation moved from the industrial age into the information age, the importance of command and control systems for the DTS has increased. The proper management of large scale deployment and sustainment operations increases the capabilities of America's combat forces. Ensuring the right forces arrive at the right location at the right time; integrating air, sea and surface assets; and enabling commanders to divert shipments while en route are the critical capabilities that the Defense Transportation System must provide America's war fighting CINCs. In the past USTRANSCOM has focused its attention on moving people and cargo. Today, our focus is on moving people, cargo and information with a stronger sense of synchronization.

USTRANSCOM has a threefold implementation strategy aimed at streamlining existing DoD transportation procedures, connecting military and commercial transportation tracking systems, and establishing an integrated network and centralized database to share transportation data among all users. The Global Transportation Network (GTN) will be the transportation module for the Global Command and Control System (GCCS). GTN will satisfy intransit visibility and command and control information requirements by bringing together accurate, timely transportation data from AMC, MTMC, and MSC computer systems into a single integrated view of the Defense Transportation System.

GTN is a software rather than hardware intensive system. In other words, instead of becoming obsolete, it will be routinely enhanced with software upgrades. Access will be available to any user who has a lap top computer, modem, access to a military or commercial phone line and is approved to enter the network. Information from GTN will be available to any registered user from the origination of a movement requirement until delivery at points of debarkation. The location of critical war fighting personnel and material that are moving through the DTS will be available to the combatant commanders through GCCS or directly from GTN. This will significantly improve the capability of combatant commanders to respond to rapidly changing priorities as experienced during the DESERT SHIELD deployment. A GTN intransit visibility prototype is on-line now, providing intransit visibility of air and sealift movements.

Using information from USTRANSCOM's Joint Intelligence Center (JICTRANS), GTN will have the ability to disseminate collateral transportation intelligence. This information will include graphics and imagery and focus on foreign transportation resources such as seaports, airfields, shore facilities, and intratheater transportation networks. Intelligence support will also include capabilities to estimate transportation throughput. When fully matured, GTN will provide planning support that will enable USTRANSCOM to analyze transportation options, forecast total DoD movement requirements, determine the best mix of lift modes and identify potential resource shortfalls.

Contracting activities are now underway for a full and open competition to continue development and fielding of the GTN system. Contract award is anticipated by the end of this fiscal year. GTN is the command and control system that will lead USTRANSCOM into the 21st Century.

Ready Mobility Force

When my predecessor, General H.T. Johnson was asked: "With the benefit of 20/20 hindsight, what one thing would you like to have done differently during the DESERT SHIELD deployment?" He answered, "Activated the reserve forces on the day the deployment began."

His comment remains valid for any future large-scale deployments. No unified command is more dependent on reserve component forces than

USTRANSCOM. Today, more than 55 percent of our strategic airlift crews, 45 percent of our air refueling crews, 66 percent of aerial port personnel are in the air reserve component. We have an even greater dependence in our sealift and surface modes where over 85 percent of our MSC shore support and 100 percent of MTMC's Transportation Terminal, Deployment Control Support, Port Security, and Railway Service personnel come to us from the reserve component. These reserve forces augment our active duty forces on a daily basis and provide more than 50 percent of our organic capability during a mobilization.

This dependence, however, can lead to readiness problems. When a major deployment begins, the DTS must be prepared in a matter of hours to start moving the early-surge forces. To support deployments, such as those included in the current Defense Planning Guidance, we must have responsive and assured access to a sufficient number of our reserve forces. Approximately 10,500 reserve component personnel are needed to "prime the transportation pipeline" (AMC 8,000; MTMC 2,000; MSC 500). We call this the Ready Mobility Force. The Ready Mobility Force is included in the DoD legislative request for 25,000 call-up authority. These 25,000 Reservists, or a portion thereof, could be involuntarily called to active duty without the use of Presidential Selected Reserve Call-up (200K).

To ensure our capability for meeting the transportation requirements of the war fighting CINC, we must have immediate and assured access to a sufficient number of our reserve forces. The Ready Mobility Force will provide this capability.

Medical Regulation and Aeromedical Evacuation

During the past year USTRANSCOM assumed single manager responsibility for world-wide intertheater medical regulation and aeromedical evacuation. Previously, these missions were managed by separate organizations, had different procedures for wartime and peacetime, and had no standardization or connectivity between the theater CINCs. These problems were identified in post Desert Storm critiques.

To correct these deficiencies, USCINCTRANS was designated the single manager for Armed Services Medical Regulating and assigned four key responsibilities: control of the Armed Services Medical Regulating Office (CONUS movements), regulation of world-wide movement of patients, acquisition and training of deployable medical regulators (Category A reservists), and development of a centralized command and control system for global patient movement integrating separate theaters and processes as well as offering patient intransit visibility in peace and war.

Working closely with the Deputy Assistant Secretary of Defense for Information Management and a Joint Services Corporate Information Management (CIM) Business Process Improvement Team, the USTRANSCOM Command Surgeon's Office developed the TRANSCOM Regulating and Command and Control Evacuation System (TRAC^{2}ES). TRAC^{2}ES is entering an aggressive prototyping schedule, capitalizing on software already developed by the Army to track and distribute munitions.

As an element of GTN, TRAC^{2}ES will provide three major categories of information: patient movement requirements, receiving hospital capability to provide treatment, and transportation capability to move patients. TRAC^{2}ES will also be used to monitor the world-wide status of patient movement items stockage pools (litters, portable ventilators, monitors, etc). This information, processed through GTN, will provide USTRANSCOM the capability to monitor current operations and plan future patient movements. When fully matured, this system will consist of a Global Patient Movement Center (located at Scott AFB, IL), Theater Patient Movement Centers, (located at geographic unified commands), and deployable TRAC^{2}ES units to support disaster relief in CONUS and world-wide locations not supported by an established Theater Patient Movement Center.

The success of this developmental program was recently highlighted when DoD/IG directed that TRAC^{2}ES become the model for intratheater patient regulating and evacuation. This will mean that once a patient is admitted to a battlefield medical unit, the process of locating appropriate medical facilities, in and outside that theater, will begin. By the time the patient is prepared for further movement, appropriate destination and lift assets will have been identified to efficiently balance capacity to critical demand.

Joint Intermodal Container Program

During the past 30 years the commercial transportation sector has significantly increased capabilities and reduced costs through the use of containerization and intermodal systems. Unfortunately, most of the transportation support structure on U.S. military bases and forts was designed to handle break bulk and has changed little since World War II. Our warehouses were built with ramps to facilitate the loading of boxcars and trucks. This severely limits our ability to make best use of today's highly efficient, world-wide intermodal network which includes containerization and roll on/roll off stocks. We are, however, committed to making containerization the standard in DoD rather than the exception for ammunition, sustainment, and in some limited cases, unit movements.

In partnership with our Components, the Services, and the Department of Transportation, we are developing an Intermodal Installation Program. We are presently reviewing Service requirements and the various plans and programs aimed at improving the transportation infrastructure at military facilities. We are also examining the design of intermodal facilities such as the North Carolina Global Transpark development and joint DoD and civil use facilities. Similarly, we are paying close attention to the application of information technology.

Later this spring our Intermodal Installation Program will identify a major military facility to develop as a prototype for intermodal operations. This facility will demonstrate the integration of leading edge facility design and information technologies and serve as a testbed for future applications to other military facilities.

To help us prepare for the increased use of intermodal systems, we are increasing our use of containers in joint training exercises. During TEAM

SPIRIT 93 we booked space on two U.S. Flag container ships to carry the equipment of an entire signal battalion. A total of 296 intermodal containers, including military flatracks, were used to move the 29th Signal Battalion from Fort Lewis, Wash., to Camp Humphreys, Korea and back. This successful exercise confirmed that containerization can be used for some unit deployments, however, the fact remains, containerization is not well suited to the rapid deployment of heavy, oversize unit equipment. This will remain the primary mission of our organic and chartered sealift fleet. On the other hand, containerization will become the DoD standard for ammunition and sustainment.

Partnership with Industry

The declining budgets of the post Cold War era require us to expand and leverage our partnership with the commercial transportation industry. By focusing DoD organic capability on core military missions and relying on the commercial sector for non-core functions, we will best serve the war fighting CINCs and the American taxpayers. It is essential that we continue to work with the transportation industry on a joint planning capability that will identify our customer requirements and improve our ability to forecast the level of support required from the commercial sector throughout a deployment. A continued exchange of information between USTRANSCOM and the transportation industry will promote a better understanding of military requirements and commercial capabilities, allowing maximum and efficient utilization of industry's extensive intermodal pipeline. We will also continue our close contacts with the commercial transportation sector through the National Defense

Transportation Association (NDTA) and the Contingency Response Program (CORE). These forums have proven to be of mutual benefit for the government and commercial transportation communities.

Perhaps the greatest challenge to our partnership with industry will be maintaining a robust Civil Reserve Air Fleet (CRAF) program. We face a dilemma. This volunteer program depends on incentives in the form of peacetime government business for which we receive the air carriers' support during war. As overseas basing declines, the peacetime business incentive diminishes, while the wartime airlift requirement increases. As Service transportation budgets shrink, the competitive demand for cheaper rates also makes government business less attractive.

Increased disincentives have also come into play. CRAF activation during DESERT SHIELD/STORM broke the threshold of many air carriers who now view future activations more likely. This raises concerns in the air carriers, not only about lost market shares, but also about inadequate funding of the Title XIII Insurance Program (currently only $56 million) and the relatively slow hull loss indemnification process. If these concerns are unanswered, air carrier activation fears may increase. For example, the CRAF stage III passenger requirement is currently 160 million passenger miles per day (MPM/D). Our CRAF passenger capability in FY91 was 154 MPM/day. The current FY94 passenger capability is only 84 MPM/D, largely due to air carrier withdrawal from the program.

Although the CRAF cargo capability is in better shape (only three percent short of the 20 MTM/day CRAF requirement), there are indications that some cargo carriers may dramatically reduce their participation next year.

We have taken strong corrective action to strengthen the CRAF program and prevent continuing degradation of the program. OSD and the Services are cooperating on a transportation policy which places new emphasis on the use of CRAF carriers. In keeping with the spirit of the National Airlift Policy, we are linking award of the General Services Administration (GSA) City Pairs contract to CRAF participation. This will serve to leverage much more government business in support of CRAF. We are increasing the DoD CRAF contract business to well over $500 million for FY95. We have changed the FY95 contract language to raise the minimum participation level for passenger carriers to 30 percent and to more fairly distribute Stage I activation risks. We urge Congressional support for the provision in the DoD Omnibus Bill authorizing CRAF carrier access to military airfields for non-DoD commercial purposes. Perhaps most importantly, we need to explore options for improving DoD's ability to reimburse air carriers in a timely manner should they incur a loss while serving DoD under a CRAF contract.

Maintaining a healthy CRAF program is essential to our readiness. The combatant commanders need the rapid response that airlift brings during a crisis. CRAF commercial air carriers account for 93 percent of our long range passenger capability and 32 percent of our long range cargo capability. The CRAF program is the least costly way to augment the unique capabilities of organic military aircraft. We must keep the U.S. commercial air carriers on the defense transportation team.

Air Mobility

Without a robust and long term commitment to modernization, our air mobility forces will rapidly become the weak link within the Defense Transportation System. Air mobility forces are my number one readiness concern both in the near and long term.

Core Airlifter

The acquisition of a core airlifter capable of the intercontinental lift of troops and cargo (including outsized cargo), air refueling, and austere airfield operations in both air land and air drop modes is the number one priority of USTRANSCOM. Without a new core airlifter, USTRANSCOM will not be able to meet the future transportation demands of America's National Security Strategy.

A core airlifter provides America's armed forces with more than just a wide range of capabilities. It is also essential for planning purposes. It provides all of our customers a primary aircraft on which they can develop their load plans. If we build an airlift fleet without a core airlifter, deploying units will have great difficulty preplanning their loads. Without a core airlifter, America's most rapidly responding units, such as those assigned to the XVIII Airborne Corps, would have to build each load on an ad hoc basis.

Today's core airlifter, the C-141, is more than 28 years old and rapidly approaching the end of its useful service life. This service life could be extended, but the cost is prohibitive. However, the problems with the

C-141 fleet go beyond age and cost. The C-141 was designed in the early 1960s to carry the Army equipment of that generation. None of today's outsize cargo (M-1 tank, Patriot Missile Launcher, Apache helicopter) will fit into the C-141. Other key pieces of Army equipment, such as the Bradley Fighting Vehicle, have to be partially disassembled prior to loading. This means that it takes longer to load and unload a Bradley than it takes that same C-141 to fly from Fort Hood, Texas to Frankfurt, Germany. The percentage of outsize equipment in the Army inventory has significantly increased, and for more than a decade the Army has been designing and building equipment based on the specifications of the C-17 cargo compartment. The C-17 was designed to carry this outsize equipment, consequently, driving a Bradley Fighting Vehicle on a C-17 is as easy as driving your family car into the garage.

All studies have validated our requirement for a core military airlifter and every cost and operational effectiveness analysis to date confirms the C-17 design as the best option. Throughout this past year, the Undersecretary of Defense for Acquisition has conducted a thorough review of the C-17 program, including a requirements assessment, an affordability assessment, program and contractual analyses, and a complete cost and operational effectiveness analysis. Based on this review, the Secretary of Defense has decided to put the C-17 program on probation--to commit the government to an interim buy of only 40 aircraft.

The Mobility Requirements Study / Bottom Up Review Update, scheduled for completion later this year, in concert with a strategic airlift force mix study will validate the number of C-17s or equivalent capability to meet the war fighting CINCs' transportation requirements. Procurement beyond 40 aircraft depends on contractor performance, as well the C-17's initial operations and performance during the reliability, maintainability, and availability evaluation. At the next C-17 Defense Acquisition Board, scheduled for late 1995, we should have data available to accurately assess the aircraft's actual performance and make an informed decision on further procurement.

The Department of Defense is also considering a wide body commercial or military aircraft, a nondevelopmental airlift aircraft "NDAA", as a compliment to a possible reduced buy of C-17s, or as a supplement to the C-17 if the MRS/BURU results require more airlift than 120 C-17s can provide. A decision on the quantities of NDAAs, and their type, will be made not later than at an integrated C-17/NDAA Defense Acquisition Board Milestone III Review early in FY96.

If the C-17 fails to meet expectations, or if part of our airlift requirements can be met by the NDAA, as discussed above, we would buy a number of NDAA. The NDAA, however, would not be a substitute for all C-17 core airlifters.

The bottom line is clear. America needs a new core airlifter to meet the requirements of America's National Security Strategy. It is USTRANSCOM's number one priority.

Materiels Handling Equipment

An airlift system is only as efficient as its materiels handling equipment (MHE). Unfortunately, our current aircraft K-loader and commercial wide body loader inventory falls 22 percent short of the capability required to support the Defense Planning Guidance scenarios. This aging fleet is in its second overhaul cycle and eight years past its contracted life expectancy. The 40K fleet is expensive to maintain and has only a ten hour "mean time between failure" rate. The modernization of the MHE fleet is the second highest priority for the air mobility force.

Despite this current deficiency, the prognosis for the near and long term readiness improvement for MHE capability is quite good--as long as the funding remains intact. The 60K loader, which recently completed a competitive, 65 day operational assessment at Dover AFB, DE, will replace not only our aging and increasingly unreliable 40K loader, but also the wide body loaders used for commercial aircraft. The 60K loader, which has drive-on/drive-off capability on C-141s, C-5s and C-17s, will provide us superb MHE capability well into the 21st Century. We will award a production contract in April 1994 with initial production delivery in January 1996.

KC-135 Improvements

Reengining of the KC-135 fleet is nearing completion. This modification has increased the viability of the system while improving our air refueling capability. Preserving this capability is key to force projection.

At the same time we are further enhancing the mobility role of the KC-135 to help ease the strain on our aging airlift fleet. We are currently using KC-135s to fly channel (routine) cargo missions even though it was not designed as a cargo carrier. It is not equipped with a cargo roller system nor is it compatible with 463L pallet system (standard throughout our airlift fleet). Without a roller type system, loading and unloading is highly labor intensive and time consuming. Therefore, we tested and equipped some KC-135s with a rail locking, roller system from existing airlifters. These aircraft are now capable of carrying six pallets plus a small number of passengers. Current plans call for the acquisition of 150 kits (rollers and locking rails) with the possible purchase of an additional 50. These kits are "snap-on systems" that can be easily and quickly transferred from one aircraft to another. This will help to ease the daily peacetime strain on our C-141 fleet, but, it will not add appreciably to our overall wartime airlift capacity since they will be primarily employed in their air refueling role during a major regional conflict.

Flight Simulators

Delays in the C-17 program will require us to extend the life span of our existing airlift fleet. By using increased levels of commercial lift and expanding the use of tankers in airlift roles, we can reduce the flight hours of our airlift fleet. However, the assured readiness of our airlift crews requires continued, high quality flight training.

The use of "high fidelity" flight simulators, similar to those used by the commercial sector will allow us to further reduce the demands on our airlift fleet by transferring more of this training from the aircraft to the simulators. This will not require an expensive acquisition program. It will only require an upgrade to our existing C-5, C-141 and KC-135 simulators with "commercial, off the shelf technology." This will allow us to transfer many airlift and air refueling training missions from the aircraft to the simulator with no loss of productivity or aircrew readiness. Not only will this program result in direct savings--simulators cost hundreds of dollars per hour while aircraft cost thousands--it will reduce the demands on our aircraft fleets and extend the clock on their useful service life.

Airlift Defensive Systems

Until recently, protecting airlifters from ground based anti-aircraft threats was strictly a matter of tactics. With the proliferation of hand-held infrared (IR)-guided surface to air missiles (SAMs) and the wide availability of radar directed antiaircraft artillery and SAMs, our need for airlift defensive systems has expanded.

Our first effort to protect our aircraft was a program called "Snow Storm." It provided IR defensive capability to 18 C-130s, 3 C-141s and 2 C-5s. The Airlift Defensive System (ADS) is a follow-on program to equip additional aircraft with Snow Storm equipment.

Sealift

When the first USCINCTRANS posture statement was submitted in 1988, sealift readiness was described as the "most disturbing situation in the Command." Much has improved since 1988, and with continued support for our present programs, the forecast for readiness in our organic sealift capability is good--but we must stay the course.

Large Medium Speed Roll-On/Roll-Off Ships

The Mobility Requirements Study recommended the addition of five million square feet of capability to our surge sealift and prepositioned fleet. This will include the addition of 19 large, medium speed roll-on/roll-off ships (LMSRs) to the eight Fast Sealift Ships (FSS) presently in our organic fleet. The LMSR acquisition program, funded through the National Defense Sealift Fund (NDSF), is moving forward at full speed. When completed in FY01, these 19 ships (5 conversion and 14 new construction) will provide an additional 5 million square feet of roll-on/roll-off (RO/RO) capability to our organic fleet. Eight of these ships will be maintained in full operating status as part of our prepositioned forces, adding two million square feet to our existing capability. The remaining 11 ships will add three million square feet to our surge capability from CONUS.

Currently, two ships are being converted at the Newport News Shipbuilding and Drydock Company, Virginia and three will be converted at the National Steel and Shipbuilding Company, California (NASSCO). We expect the first two conversions to be completed in January and August

1995, respectively. Additionally, Avondale Shipyard, Louisiana and NASSCO were each awarded contracts in September 1993 for the construction of one LMSR, with options for five more ships each. Contracts for the final two LMSRs have not yet been awarded.

Our primary concerns in the strategic sealift program are twofold: maintaining ship acquisition profiles and ensuring adequate operations and maintenance (O&M) funding for our organic fleet. Continued investment in these areas is critical to maintaining a responsive surge sealift capability.

Ready Reserve Force

The Ready Reserve Force (RRF) consists of 102 ships managed by the Maritime Administration. They are maintained in various readiness states. Some ships can be ready to sail in as little as 4 days while others require as many as 20 days. During the DESERT SHIELD deployment, we activated 74 RRF Ships that carried 20 percent of the overall sealift tonnage. These ships played a critical role during this deployment and we learned valuable lessons that will enable us to operate this fleet more effectively and efficiently in the future.

Readiness within the RRF continues to be a concern. Once activated, the 74 RRF ships used during the Gulf War maintained a superb reliability rate and played a critical role during the deployment and sustainment phases. We used these ships because of their high military utility to carry unit equipment which could not be containerized and carried by liner service. On the other hand, we did experience some problems during activation. When we studied the successes and failures of these activations (approximately 40 percent on time, 40 percent 7 days late, 20 percent 30 or more days late), one factor emerged as the critical element for predicting reliability: a previous activation for a contingency, exercise or sea trial was the essential element of readiness.

Because significant maintenance and activation funds were spent on our ships during the Gulf War, the RRF fleet is today in a relatively high state of readiness. To ensure that fiscal pressures do not degrade this readiness, we are currently examining options that will allow us to maintain the required readiness in the most needed RRF ships. This study of readiness options is part of the Mobility Requirements Study/Bottom Up Review Update in which we are examining all aspects of the RRF including: size, composition, siting, maintenance, and readiness programs of the fleet.

Afloat Prepositioning

In terms of surge capability, the 13 Marine Corps Maritime Prepositioning Ships (MPS) and 12 Service assigned Afloat Prepositioning Ships (APS) are the first sealift forces to arrive in theater. Since they are already loaded and strategically located, they will deliver the first heavy forces to a war fighting CINC. This was demonstrated in both DESERT SHIELD and Restore Hope.

As recommended in the original MRS, the current fleet of 12 afloat prepositioned ships will be increased by eight LMSRs and two container ships to support an Army heavy brigade (afloat) with 30 days of sustainment and supplies. These LMSRs will eventually provide the 2 million square feet needed to meet this requirement. Since the first LMSR will not be delivered until FY95, we have implemented an interim afloat prepo capability of one million square feet using seven RO/ROs and one crane ship from the RRF. These ships will support an Army heavy brigade with fifteen days of sustainment and supplies. We anticipate all eight ships being on station by late May 1994.

Joint Logistics Over the Shore

As we prepare for future contingencies we cannot depend on always having the luxury of the world-class ports we used during DESERT SHIELD. We must be prepared to operate through ports that have been damaged, lack modern facilities, have limited deep draft capability or, in some cases, we may have to operate without a port and move supplies across a "bare beach." To operate in these types of environments, we will utilize Joint Logistics Over the Shore (JLOTS).

In addition to providing enhancements to existing fixed port facilities, JLOTS provides the capability to offload ocean going cargo vessels without the benefit of a fixed port facility. Cargo such as unit equipment (including items as heavy as M-1 tanks), sustainment supplies, and ammunition can be off loaded from these sealift ships onto smaller watercraft. The smaller vessels, known as lighterage, then deliver the cargo to a port facility or to a "bare beach." Petroleum products can be delivered directly from ocean going vessels to the high water mark on the shore via conduit (hose or pipeline). The war fighting CINCs have incorporated JLOTS in their contingency war plans.

To maintain this capability, training must be included in joint exercise programs. JLOTS expertise is a highly perishable skill. At a minimum, we need one dry and one liquid cargo training exercise per year to maintain proficiency. Training of JLOTS forces, however, is constrained by overall funding.

Maritime Revitalization

Maritime revitalization has been a subject of continuing interest to USTRANSCOM. Since our creation in 1987, we have been a proponent for revitalization. Our motivation is obvious and was well demonstrated in the DESERT SHIELD deployment when the U.S. commercial maritime industry carried 29 percent of all sealift tonnage. The U. S. flag merchant marine is a major source of manpower for the RRF fleet, and we need to preserve this most valuable asset.

To ensure that ships selected for the Maritime Security Program enhance the readiness of the DTS it will be essential that USTRANSCOM and MARAD work as a team to identify requirements for the Maritime Security Fleet (MSF). If they are to be useful, these ships must be selected to complement our organic assets and we must ensure availability to meet our deployment timetables. We are working closely with DoT and the industry to ensure the commercial sector can contribute to the full extent possible during times of national emergency.

Surface Lift

One critical element of the DTS that is frequently overlooked by the media is CONUS surface movements. During the Gulf War, there were many stories showing airlifters and sealift ships, but most accounts overlooked the fact that virtually all of the personnel and cargo had to first be moved to an aerial or sea port. America's highway and rail system is the lifeline that connects our military installations with the global, intermodal transportation system.

We have worked with the Department of Transportation in developing the Strategic Highway System and continue to work with the Services as they upgrade their outloading facilities needed to prepare and move equipment forward. The Army Strategic Mobility Program (ASMP) is providing the funding necessary to upgrade rail and road facilities, staging areas for unit equipment, and military airfields.

Equally important to our deployment capability are the civilian airfields and seaports. We are working with the Department of Transportation to assist us in evaluating intermodal initiatives and their application to DoD. This includes a review of the "total trip" from the installation to its aerial port of embarkation (APOE) and seaport of embarkation (SPOE), as it affects rail, road, port, and information systems. We are monitoring the implementation of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 to ensure maximum benefit for DoD.

Rail Cars

The Army Strategic Mobility Program (ASMP) established a requirement for 2,306 railcars. This figure includes the 233 heavy lift railcars recommended in the Mobility Requirements Study plus railcars for other unit equipment and ammunition at depot plants.

There are currently 566 railcars on hand, 187 being procured with FY93 funds, and 819 planned for procurement in the FY94-99 Army POM. There are currently sufficient heavy lift railcars on hand to move all M-1 tanks assigned to the Army and Marine Corps' fast deploying units. Lease agreements are one of several options being considered to mitigate shortfalls that may arise for other type of railcars.

West Coast Containerized Ammunition Port

One of the more important lessons learned during the DESERT SHIELD deployment and sustainment operations was the value of containerization, particularly for the movement of ammunition. Several after action reports stated that we loaded ammunition onto breakbulk ships exactly as it had been done during World War I. This was no exaggeration. There have been few improvements in the slow, labor intensive techniques used to load breakbulk ships.

USTRANSCOM is leading the DoD effort on increased containerization and better use of intermodal capability. A West Coast ammunition port, with outload capability similar to that of Sunny Point, NC on the East Coast, is a key element in this effort. Without a West Coast facility, ammunition for a Northeast Asia MRC would have to be shipped from a depot in CONUS to Sunny Point and loaded on a ship. The ship would then transit the Panama Canal, refuel on the West Coast of the U.S. and then sail to a port in Asia. This circuitous route through the East Coast ammo port would add 12 days transit time. To remedy this situation, the FY 95 Budget includes funding for a $57 million improvement to Naval Weapons Station, Concord, CA and a $1 million addition to the facilities in Port Hadlock, WA. These upgrades will allow us to meet the containerized ammunition requirements of two nearly simultaneous MRCs.

IV. Reengineering the DTS

While USTRANSCOM is only seven years old, the present Defense Transportation System has been evolving for several decades. Last year another major step was taken when the Secretary of Defense assigned USTRANSCOM combatant command over common-user transportation resources and designated USTRANSCOM as the single manager for defense transportation in peace and in war. This action properly aligned authority with responsibility. Some saw this as the final step in unifying the DTS in accordance with the principles of Goldwater-Nichols. However, it was not the end; it was just the beginning.

Now that the Commander-in-Chief of USTRANSCOM has the authority, responsibility, and accountability, we can begin to reengineer the DTS from the bottom up. We are not interested in a slow, evolutionary process that gave us the present system--a system primarily designed from the Services' perspective. Service staffs are no longer responsible for fighting America's wars--unified combatant commanders are. Therefore, our efforts are guided by two inviolable objectives: reengineer the DTS to provide the strategic transportation support required by the war fighting CINCs, and do so at the best value to the American taxpayer.

Last year the senior leaders in USTRANSCOM and our Components signed up to an ambitious plan for this reengineering. Following the principles outlined in the Vice President's National Performance Review (NPR), we formed a team to examine the present system, identify critical problem areas, and develop an "ought to be" Defense Transportation System. This initial design of an "ought to be" DTS is not an attempt to build an inflexible blueprint for the future of the DTS. Rather, our goal is to identify the most critical characteristics and concepts required in a future DTS.

This team spent six months talking to our customers, key staff members at our headquarters and component staffs, and military transporters in the field and at our aerial and sea ports. They also spent time at the rail yards, flight lines, freight yards, and control centers of America's leading commercial transportation companies to glean from them the trends for the future and the innovative ideas that have made them leaders in the international market place.

By collecting extensive data on undesirable effects of the present system, our team identified a critical systemic problem--traffic management in the DTS was fragmented along both service and modal lines.

Interestingly, this was the same conclusion that had been reached by various other groups. If you look back as far as the 1950s, nearly every study of America's Defense Transportation System indicated that its biggest problem was fragmentation: stovepiped, Service oriented approaches without regard for the overall system performance. Despite the progress we have made in the past decade, we discovered that fragmentation still exists within the DTS--different approaches to contracting with industry, automated systems built to specifications for one Service but not those of others, one set of operating procedures for peacetime and different processes used in wartime.

Building upon the team's findings, those of previous studies, and in consultation with a wide range of military transportation experts, our team developed an initial "ought to be" DTS model. While not detailing all their recommendations here, I would like to discuss a few of the key concepts.

First and foremost is a focused, joint effort on serving our customers—from the unit commanders who will deploy their forces, to the war fighting CINCs who are receiving and employing them. It will involve educating and supporting a network of DTS Agents at every installation to see to the needs of that organization's commander and to ensure that we are providing quality transportation services at best value to the American taxpayer. These agents, with automated tools that will be standard across all DoD, will be empowered to meet the vast majority of their customer's requirements unassisted.

At the heart of our "ought to be" DTS, and in my opinion the concept that has the greatest potential for changing how we do business, is the role of a Joint Mobility Control Group. In the past, unit transportation officials would have to deal with multiple Service agencies to coordinate movements, especially if it involved more than one mode of transportation such as a unit deploying some of its equipment by surface and some equipment and personnel by air. Our concept, one that is the standard throughout the commercial transportation sector, is one-stop shopping. Deploying units and war fighting CINCs will have a single point of contact for all intermodal operations. This point of contact will be the same "team" within the Joint Mobility Control Group they have worked with on a daily basis during routine peacetime and training operations. These teams will be familiar with the unique requirements of the specific units and regional CINCs they support.

Rather than focusing on transportation mode performance in isolation, the Joint Mobility Control Group will look across the entire Defense Transportation System and recommend adjustments to optimize overall performance—ensuring that combat power or humanitarian relief can be delivered on time, at the right place, in the proper sequence.

Another facet of the Joint Mobility Control Group is real time command and control of DoD owned transportation assets and connectivity with our partners in the commercial transportation industry. Again, not taking a Service or modal approach, our vision of command and control will be similar to that of the theater CINCs —regionally oriented, joint operations. Our joint transportation intelligence center and other operationally oriented functions will be postured to provide consistent, integrated support, regardless of mode, to all transportation forces operating worldwide.

With the principles of the National Performance Review (NPR) as our charter, combined with specific tools such as the recent designation of USTRANSCOM as an NPR “Reinvention Laboratory,” we are moving forward at full speed. As Secretary of Defense Perry has stated, reform in the acquisition process is essential to fielding and supporting America’s armed forces. We will use our status as a reinvention laboratory to try new operating, business, and financial practices, including how we deal with the commercial industry, and establish long term partnerships that are mutually beneficial to the government and to private industry. Even now, as outlined in the Government Performance Reform and Results Act, we are establishing measures of customer service as well as indicators of internal process performance so the decisions we make, whether operational or financial, are fact based and performance enhancing.

Another element that is required to develop this “ought to be” DTS is an improved process for developing a corps of highly qualified military transporters in the joint arena. After obtaining the necessary training and transportation credentials from their individual services, these officers will be provided joint experience and continuing professional education through a Defense Transportation School and education with industry programs similar to that provided for acquisition officers. In other words, we are committed to growing our own senior leaders.

USTRANSCOM and its Components are committed to the principles of Goldwater-Nichols--where America's unified combatant commanders are the key figures in fighting America's wars and conducting other missions as directed by the National Command Authorities. The best method of supporting these war fighting CINCs is a strong USTRANSCOM leading the way to the "ought to be" DTS. This integrated, joint, intermodal transportation system will eliminate stovepipes and wasteful duplication, provide a single point of contact for both customers and suppliers, create a seamless transition between peacetime and wartime operations, and provide America's war fighting CINCs with the global Defense Transportation System they will require in the 21st Century.

V. Final Comments

This posture statement has discussed the new challenges the DTS will face, the critical programs and equipment needed to meet these challenges, and the reengineering of America's DTS that will ensure we can continue to meet the requirements of the combatant commanders at the best value to the American taxpayer. There is, however, one other issue that needs to be addressed--our people.

The men and women of USTRANSCOM and our Components--active duty, reserve, guard, and civilian--are the highest quality soldiers, sailors, airmen, Marines, and civilians who have ever served. In the past 19 months, I have visited with them in many of the 21 countries where they are serving. This past Christmas was a unique treat for many of them. While some were engaged in operations around the world, it was for most the first Christmas since 1988 that they were not involved in a major operation (1989 JUST CAUSE, 1990 DESERT SHIELD, 1991 PROVIDE HOPE, 1992 RESTORE HOPE). The majority of them actually got to spend the holiday season with their families.

One out of five is not a good record for being home for the holidays. Nonetheless, I am proud to report I never hear them complain about carrying the American Flag to the remote corners of the earth. I never hear them complain about helping America defend our security interests. I never hear them complain about their roles in feeding starving people. I never hear them complain about helping other nations transition from dictatorship to democracy. These are dedicated men and women--professionals who signed on to do tough jobs.

I must tell you, however, these men and women are worried. They are worried about their future and the future of our armed forces. These men and women are not only the most technologically competent force we have ever fielded, they are also the best educated. Although most are much too young to remember the past mistakes made during force reductions, they have read and understand them. They know the history of poorly trained and poorly equipped American forces from the losses at Kasserine Pass to the dark days of Task Force Smith. They are the ones out there on the point of the spear--and they are concerned.

These men and women do not, however, have unrealistic expectations. They realize we must reduce the size of our force. They know they will not get rich from their military service. On the other hand, they do expect to be provided the right tools in sufficient quantities to complete their missions, and they expect job security and the ability to provide their families with a decent standard of living.

New strategies, state of the art technology and equipment combined with more efficient systems will be of little use if we cannot attract and retain quality people. It was demonstrated time and time again during DESERT SHIELD and DESERT STORM--good people make the difference. We must provide them with the tools and training to do their job. And we must provide a quality of life that allows them to serve with dignity. Their future is in your hands, just as America's security is in theirs.

Mr. DICKS. I think you have made a very good and concise statement. This Committee has been very concerned. Mr. Murtha, I think one of his top priorities as Chairman of this Committee, has been to ensure that we have enough resources to deal with the transportation issue because as we bring our forces back into the United States, therefore less force forward deployed, especially in Europe, it seems to me at least that transportation becomes even more crucial, with sealift, prepositioning, and airlift.

Of course, the part that this Committee is worried about, are the questions we face on airlift. I have been involved in this issue for a number of years and got to know more about it than I wanted to in the early 1980s.

One of the things I found out is that not everything has to go by air, that most of what we ship—is this not true; that most of what goes is going to go by ship?

General FOGLEMAN. Yes, sir.

CIVIL RESERVE AIR FLEET (CRAF) ISSUES

Mr. DICKS. Ninety percent, is that still the figure?

General FOGLEMAN. Yes, sir. In most war plans, that is true, in a deliberate war plan.

Mr. DICKS. I want to read something to you that I just got from RAND on the question of CRAF. You are testifying here today that in your chart now, 50 percent of your capability is in CRAF.

General FOGLEMAN. My total capability, passenger and cargo.

Mr. DICKS. Okay.

Now, there are some experts who have looked at this and said although CRAF performed successfully in this contingency—talking about Desert Storm/Desert Shield—it is not certain that it can be called on to the same extent in the next national crisis.

The research and other studies have raised questions about the long-term viability of a very large CRAF. Major commercial carriers have learned from this first activation of CRAF in its 40-year history that it is extremely disruptive of normal business. These carriers tend to operate at high utilization rates on scheduled routes with secure markets to cover their considerable investment costs.

CRAF activation threatened their schedules, market and ultimately the long-term sources of funds required to run their fleets. Changes in the global strategic environment are also weakening the incentive for carriers to participate.

The amount of overseas peacetime business offered to those who volunteer for CRAF is declining as U.S. military presence overseas declines.

Is this something you are worried about?

General FOGLEMAN. Very much so, Mr. Chairman. In fact, since the end of Desert Shield or Desert Storm, we have had two CRAF solicitations; one for fiscal year 1994 and we have one on the street right now.

The fact of the matter is that in 1994, our CRAF requirements were not fully subscribed, that is, you see on that chart, a Stage 1 and a Stage 2 of capability and we have fully subscribed our Stage 1 and our Stage 2 in both cargo and passenger. In Stage 3, we have a shortfall in both passenger and cargo.

Mr. DICKS. CRAF 1 is what?

General FOGLEMAN. Fully subscribed. That means that we have——

Mr. DICKS. I know. What part does it cover? What requirement does it cover?

General FOGLEMAN. I would say that it covers about 5 million ton miles; roughly 5 million ton miles. It is cargo and passenger, sir. It is both.

In other words, when we go out for CRAF solicitation by stage, we have both passenger and cargo. That is the problem as I said with million ton miles. This chart just shows the cargo portion.

Yellow is CRAF Stage 2, both cargo and passenger. It is a higher level.

I would first try to activate CRAF Stage 1 because it has minimum impact and turbulence on the civilian airline industry. As the crisis unfolds and you see that you need more capability, you activate Stage 2 or 3.

Mr. DICKS. This requires more airplanes?

General FOGLEMAN. Yes.

Mr. DICKS. Do you have to pay more for people to be in CRAF 1?

General FOGLEMAN. No, sir.

Mr. DICKS. How does it work?

General FOGLEMAN. The way it works is that in return for a pro rata share of our peacetime business, these airlines contract at a prenegotiated rate to provide us both passenger and/or cargo aircraft. It is the same rate for Stages 1, 2 or 3. That has been the way we have been doing it.

It is one of the things that we are looking at in how we might change the solicitation in the future. At this point, they get the same pay or same rate for Stages 1, 2 or 3. We never activated Stage 3 in the desert.

STATUS OF C–141 REPAIRS AND SPARES

Mr. DICKS. So there is a question mark over that piece of the capability?

General FOGLEMAN. Yes, sir.

Mr. DICKS. Then we drop down to C–141s.

We sent our Surveys and Investigations staff because we were concerned, General, not about what you have said to this Committee, but we have had such conflicting presentations made to this Committee about the condition of these airlifters.

The report we get back from them is that we have a spare parts problem with the C–141s, that we now are seeing hangar queens out there for the first time, something that the Committee has been adamantly opposed to, and that the pilots, the people who fly the planes, tell our investigators that the C–141s probably—and this is in their professional judgment—have deteriorated in their capability since the Gulf War, and that they estimate that they would only be able to carry 50 to 70 percent of what they carried during the Gulf War and that they feel that there is a serious deficiency here.

We are told that the Air Force has decided now to accelerate the phasing out of the C–141s. These are things that we are quite concerned about because, as your chart shows, that is the C–141 is the principal part of what we rely on until we get the C–17, until we can make a decision on the non-developmental aircraft.

Is that a fair thing to say, that the C–141 has deteriorated that much since the Gulf War? That is what your pilots are telling our investigators.

General FOGLEMAN. If I could provide you the facts as they exist today.

Today we have 243 C–141s in the inventory, both in Air Mobility Command, the Reserve, Guard and Air Education and Training Command.

Of that number, I possess 147. So we have another 96 that are in the depot; that is they are undergoing heavy maintenance work.

Of that 96, 48 of them are being repaired for this wing crack problem. When we started to repair the C–141, we found that some of the aircraft could be repaired with a boron patch over the damaged area, some could be repaired through a cold working process, but we had a considerable number of the aircraft with so much damage that they would have to have wing panels replaced.

That number is 48 that have to have the panels replaced. Those aircraft are currently in the depot and being worked on and we will get them back at the rate of five to eight a month so that by December 1994, we should have all our C–141s repaired from the wing crack problem.

When they are repaired, they will have the same capability, in fact, slightly more than many of the aircraft had during Operation Desert Shield/Desert Storm. That means there will be no restriction on weight-carrying capacity or heavy weight air refueling. That is the condition of the fleet that we have now. That is a good news story in the near term, but it is also a bad news story because this fleet doesn't match up with the equipment that we are trying to haul for our customers.

In the long run, we need to phase this fleet out. The fleet averages 36,500 hours per aircraft. We are making the necessary modifications to keep the aircraft structurally sound through 45,000 hours. So we figure that we have about 10 years left on the airplanes because we are aging them at the rate of 800 to 900 hours per year in the active force.

In the Guard, we are aging them at 350 to 400 hours.

Relative to the retirement schedule, we had a retirement schedule that was going to take all of the C–141s out of the Active force by the year 2005 and we were going to keep 64 C–141s in the Guard and Reserve through the year 2015.

Last year during the Bottom-Up Review and the fiscal year 1995 budget review, we changed that program so that we take all of the C–141s out of the active force by 2002 and all out of the Guard and Reserve by 2006 and we did that based on this 45,000-hour life expectancy of the airplane. So that is kind of where we are on that.

Relative to spare parts, because I knew this was an issue, I had the staff go get with Air Force Materiel Command and check the latest figures. Where we stand today in terms of percent of spares that we have again authorized, we have 70 percent of our spares that were authorized. Our projection is that that would allow us to fly 87 percent of our wartime utilization flying hours.

Mr. DICKS. Do you have hangar queens out there that——

General FOGLEMAN. We have aircraft that——

Mr. DICKS [continuing]. Are being cannibalized for spare parts?

General FOGLEMAN. We have them in the depot and that is something you do in depot. We have aircraft that have been sitting in depot status——

Mr. DICKS. Why have we underfunded spares—just affordability?

General FOGLEMAN. There are two things that happened there. That is an interesting question and I appreciate having it asked. In 1988, there was an Air Force audit done of the, at that time, Military Airlift Command spares accounts, and there was confusion about how they accounted for spares that were at home station, and spares that were at our en route locations around the world.

Because of that confusion, we got direction to change the priorities for 40 percent of our total spare buy and it went from Priority 2, which is what all the fighter aircraft, all the bomber aircraft, every other operational airplane had, to Priority 12 in the spares buy.

That occurred, and it was a rather innocuous thing that occurred in the 1988–1989 time frame.

Operation Desert Shield came along and we surged for that and it was kind of invisible because everybody was providing whatever spares were needed.

When the war was over, in the post–Desert Shield environment, when Congress made money available to reconstitute the fleet, in the spares funding, they ran out of money when they got to Priority 8, so everybody got well except the Airlift Force.

Mr. DICKS. You weren't there then, right?

General FOGLEMAN. I was not there.

Mr. DICKS. That is a very major mistake.

General FOGLEMAN. Absolutely. We discovered it in the fall of 1992. I took it to the Chief of Staff of the Air Force. He directed a special category code be inserted and we began working at that time to try to recover from the situation.

Mr. DICKS. I haven't seen a supplemental here asking for money for this. When are we going to correct it?

General FOGLEMAN. As the force structure comes down, they have reprioritized within that big spares account at Air Force Materiel Command.

The numbers I give you today are pretty good numbers overall. The problem is I believe they are masking a larger problem because I have had my C–141 fleet standing down this year.

Mr. DICKS. Because you had all your planes in the depot getting fixed so obviously you need spares to fix them, but you are not operating them, therefore, you are not having the necessity for spares.

General FOGLEMAN. Yes, sir.

C–141 PILOT OVERMANNING

Mr. DICKS. I am also told you have another problem, that you have over-manning in your pilots, which means you have to fly these planes more than normal. So a lot of the time is being taken up in flying these planes. Is that another problem?

General FOGLEMAN. I don't see it as a problem.

Mr. DICKS. If you have to have more flights then it drives up your utilization rate, your hours?

General FOGLEMAN. If we did that, we are not driving up training hours because of this. What we are doing is we over absorbed co-pilots in the C–141 and one of the reasons we did this is because of the situation we had with our undergraduate pilot training.

As we pulled down our force structure, we were producing too many pilots. What we agreed to do is we took additional co-pilots and the penalty is when you have additional co-pilots, instead of them upgrading to aircraft commander in 18 months, now they have to wait 26 months because it takes them longer to accumulate the hours needed to upgrade.

So while we have an over absorption situation, which we have terminated because we have gotten the pilot production back into balance, I don't see this as something that will drive spares consumption.

The biggest thing that has driven us this last year has been the wing cracks to the 141s that stood down, the way we have replaced that in the system is we have contracted for commercial augmentation.

My entire program each year for commercial cargo only augmentation is about $135 million. That is what we shoot for. So we try to stay in that range and we do that to incentivize these CRAF people. But through February of this year, we have already spent $208 million on cargo and passenger expansion business. This does not include any fixed-based commercial augmentation. We had to do it because the C–141s weren't there. So my pilots are not flying.

What will happen over the rest of the year is I will cut back on my commercial cargo buy and I will start to get the C–141s back out in the system.

Mr. DICKS. Mr. Young?

REQUIREMENTS FOR TWO MAJOR REGIONAL CONTINGENCIES (MRCS)

Mr. YOUNG. Mr. Chairman, thank you very much.

General, welcome to the committee. We recognize the tremendous importance of your job. Notwithstanding that we have the best war fighters in the world, if they can't get there, they can't fight the war and win the battles.

Of course, that is your job. You mentioned the Bottom–Up Review. We have been spending a lot of time on the issue of Bottom–Up Review and what it means to the future of our readiness and sustainability and the ability to get the job done.

We have had most of the CINCs and all of the Chiefs, testify this year and while every one of them salutes smartly and expresses the party line, that the Bottom–Up Review is okay, I detect personally less than enthusiastic response to that question.

General McPeak said he would feel a lot more comfortable if it were only one big one and one little one, which indicates to me there are a lot of questions in the minds of those that will have to fight the war; could we do the two MRCs?

Hopefully we will not be required to do even one MRC. How do you feel about this? As you project the future, what we see happening based on the Bottom–Up Review, how comfortable do you feel that you can get our war fighters where they will have to go should that happen?

General FOGLEMAN. Today, sir, I cannot provide the lift for two nearly simultaneous MRCs. I can do it for one, one of the war plans, and I feel fairly confident on that, although there are some fairly heroic assumptions that get made relative to activation of the Reserve and the CRAF. ———.

That assumption becomes less viable every day. Today I cannot do two MRCs. If I got the enhancements that were supposed to come with the Mobility Requirements Study out into the time frame of 1999 to 2001, I think I could execute that, but it is all based on those enhancements coming.

REQUIRED NUMBER OF C–17S

Mr. YOUNG. You mentioned the C–17 had 120. Do you believe that we are going to buy 120 C–17s?

General FOGLEMAN. In my heart, I don't think we have the support to buy 120.

Mr. YOUNG. Would you like to buy 120?

General FOGLEMAN. The direction that we got last year was do a study. It came back and it said the most cost-effective force is 120 C–17s. However, if you want a lower cost, somewhat less effective force, there are other alternatives that you can look at.

So strictly from a military standpoint, 120 C–17s would give me the greatest military capability, but we rarely get idealized force structure, so we will be prepared to attempt to do the job with what we get issued.

Mr. YOUNG. I understand that you rarely get all you want. Neither do we, most of the time, because we would like to see you have all new airlifters if that was fiscally possible, and it is not. It is pretty safe to say that if you were going to war, either one MRC or two MRCs, and you had a fleet of new airplanes with new technology, less maintenance time between operational hours, you would have less problems keeping those airplanes flying than you would a restructured, rebuilt SLEPed 141, for example.

Is that correct?

General FOGLEMAN. Or a hodgepodge; a few of this, a few of that.

NAVY SUPPORT SHIPS

Mr. YOUNG. Airlift is not the only problem that you face. Sealift is another, almost a war stopper.

Admiral Larson was in a few weeks ago and we talked to him about the downsizing of the Navy and one of the questions that I asked him was about servicing the fleet; as the fleet got smaller, you still have to service the fleet.

I asked about tankers and oilers and those ships that are not exciting, like cruisers and destroyers, but are important to keep the battle troops going.

I asked him what the status was in the Navy as to those types of ships. I think he used the term that they were war stoppers, very vulnerable, and they would be one of the first targets that an enemy would go after to make sure that we couldn't service the battle groups.

Do you concur? Are we vulnerable in the area of ships to service the fleet?

General FOGLEMAN. That is an area that does not fall under my expertise, but I have seen his testimony and have a general understanding of the situation in the Pacific having served there for a couple of years before I came here.

I have no reason to believe other than what he said because I know the priority normally goes to more glamourous things. We try to make do with combat service, combat support types of ships and units, so I am not the expert on that. I would defer to somebody else.

TANKER AIRCRAFT IN SOUTHEAST U.S.

Mr. YOUNG. A couple of years ago when the decision was made to restructure the Air Force and a lot of changes were going to be made, this subcommittee, in open hearing, sat with General Powell and he went through step-by-step the restructuring of the Air Force.

It appeared to me and I think to most of my colleagues on the committee that every aircraft number was going down. We were going to have less of everything, except one thing, tankers. We discussed the situation with tankers as the new strategy, present strategy versus the old strategy of being concerned about over-the-pole interdictions, et cetera, and we discovered that we had very little effective tankering facilities in the Southeastern United States.

We talked to General Powell about this a number of times and had several meetings and corresponded by mail and telephone and he agreed that we really ought to have some tankering facilities in the Southeast.

Do you have any problems with that position?

General FOGLEMAN. No, sir.

As you know, I am dual-hatted as both CINC Transportation and the Commander of the Air Mobility Command and under that Air Force restructure, tankers and airlift come under my purview.

As we have undergone the various base realignment and closures and tried to locate our airlift and tanker forces, which in the main have not been cut to the extent that other forces have because of the importance of transportation, we do analysis of distribution, and I would tell you that the Southeast United States is an area where we have under distribution, if you will, of tankers relative to receivers, and what we try to do is we try to look at the number of fighter units, bomber units, Navy units that require tankers, and as we try to base the force, we try to balance that somewhat.

But the Southeast is currently served only by one tanker unit, the 19th Air Refueling Wing at Warner–Robins at this point.

Mr. YOUNG. The Defense Department, you mentioned BRAC and the DOD, and I am sure at the urging of General Powell and various conversations we have had, recommended to BRAC that the Air Force Reserve F–16 unit that was temporarily stationed at MacDill Air Force Base since Homestead had been destroyed, that it remain at MacDill and that it be converted to a tanker unit.

BRAC disagreed with that and in an effort to establish a reason to rebuild Homestead, they reassigned the F–16s back to Homestead, which meant that there was to be no additional tanker unit in the Southeast.

We are still interested in that and would like to work with you to see if we could accomplish the establishment of an additional tanker facility in the Southeast so we can have the proper refueling to customers.

General FOGLEMAN. I appreciate that position.

My observation would be as we are engaged in the next round of BRAC, we are kind of at the mercy of what comes out of that, but I understand your interest and concern.

Mr. YOUNG. I could emphasize what you said about at the mercy of BRAC because you never know what will happen with BRAC.

Thank you, General. It is good to have you here this morning.

Mr. DICKS. Mr. Wilson.

MINIMUM NUMBER OF C–17S REQUIRED

Mr. WILSON. General, we are asking the same questions over and over. I am just going to ask one question and just give it to me as best you can.

Considering all the contingencies that Mr. Young has mentioned and that I am sure Mr. Dicks has mentioned or will mention, the lesser regional contingencies like Grenada, Panama, Somalia, northern Iraq, plus the major contingencies, broadly as you can, what do you believe is needed?

What do you believe is needed to satisfy the airlift requirements today? What mix, what mix of airplanes do you believe is needed? Not what can we afford, but what do we need? How many 141s do we have?

General FOGLEMAN. Today, sir, we have 243. We burned one up at Pope during the accident there.

Mr. WILSON. How many C–5s?

General FOGLEMAN. C–5s, we have a total of 126, but only operate 109 of those because of depot, et cetera. So 109 C–5s, and I have roughly 50——

Mr. DICKS. Why do you say 243——

General FOGLEMAN. Those are not all PAA. That is total aircraft inventory, every C–141 to include the maintenance back-up airplanes.

Mr. DICKS. You go 126 to 109. If it is 243, what is the other number?

General FOGLEMAN. I would have to add it up. There is another number. It is less than 243.

Mr. WILSON. So 109 is the number of C–5s?

General FOGLEMAN. I have to operate day in, day out. Forty in the Guard. C–130s, we have slightly over 500 and about 525 KC–135 tankers and about 56 or 57 KC–10 tankers, airlift.

Mr. WILSON. Not counting the tankers, we have the 141s, the C–5s and the KC–10s?

General FOGLEMAN. Yes, sir.

Mr. WILSON. So given that, how many C–17s do we need?

General FOGLEMAN. Sir, you put me in a difficult position, but I will try to do this the best way I can.

Mr. WILSON. I am sure you must spend a lot of time thinking about this.

General FOGLEMAN. I do and I have a very bright captain who has a great modeling tool that helps us look at various combinations of these things. Those 243 C–141s are our core airlifter. If you think about all the Army and Marine units that are out there, when they start planning to go to war, they have to have a common measure of merit on how to pack their equipment and how to get it ready for airlift.

The common measure is a C–141 load. We call them chalks. That comes from the old days when we would draw out on the tarmac the outline of an airplane, chalk it out, and you put out there what you could put in.

All our war plans are built on C–141 equivalent loads. That is our core airlifter. Now the plan was to replace 240-some C–141s with 120 C–17s and because it was a wider body, and we anticipate greater reliability, maintainability, would give us equal capability, in fact a little bit of increased capability for half the airplanes.

But as we drop below 120 C–17s and we start to look at other numbers—for instance, I can tell you 40 is not enough. There is probably some number between 40 and 120 where there is a break in the curve, where if that is all I got, I would at least have a militarily useful number.

I will take great criticism for this, but that number is somewhere in terms of total aircraft between 70 and 80, so that I need at least 60 to 65 airplanes on the ramp to have a true core airlifter, and the rest of that capability I could make up with some kind of commercial wide body.

What that means is that I have just given you a back-of-the-envelope answer before all the analysis is done on Bottom-Up Review, MRS, all this——

Mr. WILSON. Your answer was 80?

General FOGLEMAN. I would say we need somewhere between 70 and 80 so that I can have 60 to 65 on the ramp.

Mr. DICKS. At all times?

General FOGLEMAN. Yes, sir. The other airplanes would be trainers and maintenance birds.

C–17 PRODUCTION IMPROVEMENTS

Mr. WILSON. This question may have been asked before I got here, but you know you always hear this and you never know whether it is true or not.

Is it not true that the production efficiency, et cetera, for the C–17 is improving rather dramatically right now?

General FOGLEMAN. What I would tell you is that I would not have believed the improvements that have occurred within the last 60 to 90 days as a result of a new Air Force Program Manager and a new McDonnell Douglas Program Manager.

I would cite four things that give me cause for optimism, but we have been bit in the past, so I am still withholding judgment. The first is on-time delivery of airplanes.

Now, by congressional edict, McDonnell Douglas has a 30-day window in which to deliver an airplane. It is due on the first of the month, but it is acceptable as long as they get it there within 30 days. There seemed to be a mind set that said we will run that as far into that 30 days as we can. That has changed.

In fact, as recently as 45 days ago, I was told Production Airplane 11 would be 30 days late. It was delivered very early in this month and the reason is the two managers have finally figured out how to talk to the work force and how to do things in a process fashion.

Not only did it deliver early, it was the cleanest airplane we have gotten yet in terms of quality.

Mr. WILSON. What number airplane?

General FOGLEMAN. P–11. The next is P–12, due to be delivered 1 May. Forty-five days ago, I was told there was no way it would deliver within the 30-day window. I am now being told that it will deliver within the first week of May, so something has happened.

The other thing that I look at is a year ago I sat down with McDonnell Douglas and the Air Force Program Managers and agreed to a schedule to accept airplanes so we could start building initial operational capability at Charleston. A key in that was software release.

This is a software-intense airplane. They have made every software release, including a massive release that occurred in the latter part of March.

The third thing that had me concerned was the flow time on the retrofit of the wings, work that had to be done. The first aircraft——

C–17 WING RETROFIT

Mr. DICKS. What was the problem there?

General FOGLEMAN. That was the problem when the wings failed in the static test and they discovered they needed to beef up some of the spares. We had already bought six or eight airplanes and now we have to go back and retrofit. That means when they are in retrofit, I don't have an airplane to be training crews at Charleston.

So making the time line on the retrofit was extremely important to me because I built my training schedule on those airplanes being there at Tulsa for a certain amount of time. They beat by a week their projected retrofit time on the first airplane. The second is in. That was encouraging.

I have seen these kinds of things that lead me to at least have some optimism.

C–17 DELIVERY/PRODUCTION SCHEDULE

Mr. WILSON. This is the P–11 that has just been delivered?

General FOGLEMAN. Yes, sir.

Mr. WILSON. How many more will be delivered in this fiscal year? How many more are funded?

General FOGLEMAN. Not quite one a month. We get one in May, then skip a month and it picks up about every month after that.

By December of this year, I will have at Charleston 12 operational airplanes. There will still be some airplanes at Edwards and in the conversion process.

Mr. WILSON. How many total?

General FOGLEMAN. I think there are 20 airplanes coming down the production line.

Mr. WILSON. What are we asking for in this year's appropriation?

General FOGLEMAN. Six airplanes. That is part of Dr. Deutch's omnibus agreement, that we are only going to produce six airplanes a year, and in 1996, I think it goes up to eight.

This is a probationary period and I think this is a fair approach because it allows us—by next summer, first of all, the flight test program will be complete at Edwards, the initial Operational Test and Evaluation (OT&E) developmental test program will be complete at Edwards in November of this year. I will have all the aircraft that I need for my first squadron at Charleston by December, so I intend, if everything goes right, I will declare initial operational capability in January.

So I will have the opportunity to operate one squadron's worth of these airplanes for six months before next summer. Next summer, we will do this reliability, maintainability and availability test and that will be the most stringent test that any airlifter has ever been put through.

While I would not normally be in the driver's seat on this, I am trying to insist that this be an open approach. In other words, if there is a critic in this town that wants something tested on that airplane, I would like them to come forward and tell us, because it would be a travesty to test the airplane and when it was over, have somebody come forward and say you didn't test that.

Now, that is way beyond the initial scope of what RM&A was supposed to be, but I think RM&A will be the thing that provides the data that is necessary for Mr. Deutch.

Mr. WILSON. Thank you very much, General. That was a very good answer.

Mr. DICKS. Mr. Lewis.

Mr. LEWIS. Thank you, Mr. Chairman.

It is very apparent that a number of corners have been turned on this program, that a lot of the concerns that were being expressed a year ago about the capability of the principal manufacturer to deliver this product seemingly are beginning to disappear.

A number of those accomplishments in the program so far, you are very, very aware of and I would like to put some of those accomplishments on the record.

I think it is very important that we prepare ourselves to answer those questions which are going to be asked in the near future and I assume that you will be in the middle of the debate.

I want to raise some of the questions that are being asked, but before going there, you mentioned—you used in response on the back of the envelope, the number of 70 to 80 and then quickly suggested via other testimony that the commercial aircraft would be needed and could be used to fill in.

On the other side of that, tell me where the 120 figure came from in the first place.

REQUIREMENT FOR 120 C–17S

General FOGLEMAN. Again, as I said, 120 is the most cost-effective force. That is what the Institute of Defense Analysis COEA showed us, that it was the most cost-effective force, particularly if you are operating it in a realistic operational regime.

By that I mean you have an infrastructure condition that is no better or worse than what you had in Saudi Arabia, then 120 airplanes is the answer. It is the most cost-effective force. But recognizing that cost-effectiveness is a trade-off, and if we cannot afford the cost of the full program, for some lesser cost and some reduced capability, there are combinations that need to be looked at and we have looked at them.

But what happens is—and the reason that there is a knee in the curve in there is that when you start looking at scenarios and how you flow airplanes into a limited infrastructure, you literally hit a wall on how you can effectively use so many airplanes in one scenario. That is where kind of that knee of the curve is.

If I were tasked for two simultaneous scenarios, I could use a lot more airplanes of that type because I am going to two different locations. So it is not what I would want to have, but it is what I think as a minimum we need.

In all candor, I would tell you I think that we will end up with the C–17 like we did with the C–5. We will make a buy and ultimately this country will see that it has no choice but to buy more of them because we have a unique capability in this Nation to project forces. We are the only Nation on the face of the earth that can do that.

The chairman indicated there might be questions later on U.N. airlift. Today I am involved in lifting Swedish troops out of Macedonia back to Sweden and will be lifting them back into Bosnia as part of our contribution to that effort over there.

We lifted 11 separate nations into Somalia just so we could have a team of players in there.

Mr. LEWIS. General I have to believe that in this shrinking but very, very radically changing world, that there will be more challenges rather than less.

Help me with this. This committee had a very interesting experience, some of us traveling to Korea together on a quick turnaround.

What would 80 do for you? If we had a Middle East circumstance, and there are those people who actually suggest that when we have a MRC somewhere like in the Middle East, that is when some of the leadership at least in a place like Korea might be most likely to act.

What would 80 do for you?

General FOGLEMAN. Let me put it into this context, sir. In today's war plan to support Korea——

Mr. LEWIS. Support both, right?

General FOGLEMAN. This is the interesting thing, sir. ———.

But General Hoar and Admiral Larson are just now trying to sit down and put together what a two–MRC TPFD would look like.

Mr. DICKS. What is that?

General FOGLEMAN. Time-phased force deployment data, how each unit would flow and where and when it would go in the flow.

For instance, in the Korean scenario today, the assumption is made that I will use approximately 90 C–5s and 100 C–141s.

My biggest constraints in the Korean scenario is sealift. However, not all of my airlift gets there on time. The biggest constraint is MOG, max on the ground, the thing that big airplanes don't help me with. C–5s and C–141s don't help me.

If I had C–17s, I could close a much greater percentage of that force on time there in Korea. I spent two years in Korea. I was the

Air Force component in Korea before I came here. I am very familiar with those airfields. ———.

What happens is fighter forces start coming in and they starve out the lift.

Mr. LEWIS. What you have said is, if we have a MRC in the Middle East and then we have to go to Korea, we have no idea?

General FOGLEMAN. My staff has tried to model this and the day I left to come here, they sent me a piece of paper saying "Boss, this is so frustrating, please relieve us of this tasking because we have to go to someone above you."

Mr. LEWIS. I would be very, very cautious then about the back-of-the-envelope figures. We better be talking about two MRCs, which is what the Members are talking about, and try to figure that out rather than quickly responding 70 or 80.

General FOGLEMAN. Sir, I take your criticism to heart.

Mr. LEWIS. The question was asked, but he was asking what do you really need also.

General FOGLEMAN. I think I said 120 airplanes, but—when I say back of the envelope, this has not been done without some examination. I have looked at the war plan that goes to the Middle East and at the war plan that goes to Korea. What is interesting is as forces flow, you get surge periods and so in the very early days, there is a big surge requirement for passengers and there is not such a requirement for cargo.

So depending on how somebody would phase that together, you might very well be able to do two MRCs.

MILITARY UNIQUE C–17 CAPABILITY

Mr. LEWIS. I hope that the committee and other committees will pursue this a lot more later.

My time has expired, but when I have additional time, I want to go through some of the capabilities of the C–17 that we don't have available on other aircraft.

I hope you will be able to respond in terms of two or three of those which are most important and why so the committee gets an understanding or maybe the people that are listening get an understanding of how critical the C–17 is.

[The information follows:]

The C–17 was designed to be the nation's core military airlifter. Because of its wide range of unique military capabilities it can accomplish the full spectrum of airlift missions required to support the war fighting CINCs. This gives senior decision makers.

As a core airlifter the C–17 provides capabilities not available from commercial aircraft. It provides the capability to: significantly increase throughput by more efficient use of MOG capacity; carry outsized cargo; operate into small austere airfields; airdrop personnel and cargo; and easily load and unload large roll-on/roll-off vehicles.

The C–17 was designed to carry the Army's new generation of outsize cargo such as Patriot Missile Batteries, Bradley fighting vehicles, Multiple Launch Rocket Systems, and the M–1 Abrahams tank over intercontinental distances into small austere airfields.

Mr. DICKS. One quick question—you talk about this open process. There has been a question raised about the C–17 and being able to carry the M1A1 and the M1A2.

Can you tell us about that? Is there a problem here?

General FOGLEMAN. No, sir. There—I have received a lot of criticism because it was alleged by people that I have changed the operational requirements for the airplane to suit the capability that is being produced. That is absolutely false.

The operational requirement, key operational requirement for this airplane when the design went out in the early 1980s was to be able to carry 130,000 pounds 2400 miles and that is what an M1A1 tank weighed at that time.

The weight of that tank is now gone up some, but it does not exceed the weight carrying capacity of the airplane. So I don't know where that comes from.

C–17 AIRDROP TESTING

Mr. DICKS. You answered the question.

What about problem with parachute jumps and the fact that these parachutes seem to hit the aft end of the aircraft?

General FOGLEMAN. We are testing this at Edwards. Basically, the situation is with the current configuration of static lines and chutes and air flow around the back of the airplane, a certain number of chutes have been hitting the bottom of the fuselage as they go out. It will cause what we call chute burn, cause a hole to appear in the chute.

Mr. DICKS. Not a very good thing.

General FOGLEMAN. Not generally what you would expect or want. As we have made adjustments, we have decreased the number of these hits.

There are other things that we will do. This is not an insurmountable problem. We are currently testing in the command a problem with the C–130 with chutes hitting the tail of the airplane as we are dropping certain cargo loads.

Mr. DICKS. Do you have any cargo drop problems with the C–17?

General FOGLEMAN. We have not gotten into it enough to identify. If there are any, I am not aware. I will check and I will let you know.

[The information follows:]

We did have a situation where the locking rails for the aerial delivery system (ADS) would not release properly during cargo airdrops. A significant modification of the C–17 is not required; the contractor selected a new lock design on 15 April 1994, and it has been successfully tested in the laboratory. The new lock is a form, fit, and function replacement of the previous lock and required no modification of the aerial delivery rail system currently being retrofitted into the C–17. Four new locks will be delivered to the contractor in early May for qualification testing. A full modification kit will be delivered to Edwards AFB, CA, for flight testing in July.

Mr. DICKS. We will hold until we get back from voting.

[Brief recess.]

Mr. DICKS. Mr. Darden?

C–130 ISSUES

Mr. DARDEN. Thank you very much, Mr. Chairman.

General, it is a pleasure to have you with us this morning. I think many of my concerns have already been addressed in the previous questions.

I did want to talk with you just a little bit though about airlift requirement in the tactical area rather than strategic. Of course, I realize it is a fine line as to where does strategic end and tactical begin and the mix, et cetera.

My real concern is what is the intention of the command about the Active Force remaining in tactical airlift? It seems like there has been some mixed signals that we have been getting over here about what the Department wants to do—by Department, I mean DOD as opposed to the Air Force.

What do you see as the role of the active Air Force in tactical airlift in the future? Where do you think we ought to be going? What are we doing now and could you give us an outline of the tactical airlift, our capabilities, what we need to do and where we need to go?

General FOGLEMAN. Yes, sir.

I would caveat everything I say, sir, by the fact that until 1 October of last year, the Theater Airlift Forces were in fact assigned to my command. Now they have transferred to the Air Force components of theater commanders to include the Pacific Air Forces, European Air Forces and USA Command. However, I remain interested in this issue.

I would tell you that because of the operational tempo of the theater airlift forces as represented primarily by our C–130 force, that this is a mission that the active Air Force has no intention of backing away from and in fact could not back away from even if it wanted to, but I would see no reason why it should.

I was an air component commander in Korea before we had the present structure where the theater commanders owned the aircraft. I would have loved to have owned my own theater airlift.

When I look at the operation in Bosnia where that is six time zones away, it would be, if not impossible, certainly very impractical for me to run that operation from Scott Field in Illinois when it could be run by the theater commander in theater. I think this is an area that we will continue to see emphasized.

Now, probably the curse of the theater airlift business is that the C–130 is such a tremendous airplane it is like the rabbit on TV; it keeps on going. What has happened to us now is that we have somewhat of a mixed force and a lot of the aircraft that are in the active Air Force are the older airplanes, the C–130E's.

General Loh will tell you that he has a plan to start working that issue and he has a long-range modernization plan. We are very much interested in seeing the C–130J come along, particularly since Lockheed has made the corporate investment that makes the C–130J available at virtually the same price as the C–130H.

So from the perspective of the increased capability it gives us, the increased reliability and the fact that it would be good for the Nation to get that aircraft into our force structure, because there are over 2,000 C–130s out there that need to be replaced worldwide, unless we get it into our active force structure, I don't think the countries will come forward as quickly.

I think it is an area that the Air Force will not back away from. It is an area that has sort of had benign neglect because it has had equipment that seemed it wouldn't wear out. It wasn't optimum, but it wouldn't wear out.

It has done very well, but we are reaching a point where we need to start some kind of a plan. I don't think we will have the money to do a massive thing, but we will have to do it slowly over time like the way we did with the C–130H's.

Mr. DARDEN. In an era of shrinking defense budgets, we have a lot of Member interest and we have added a considerable number of C–130 aircraft to the DOD budget in past years, and primarily, as you know, for Guard and Reserve, but we are getting to the point now that I think add-ons with such a constricted budget are becoming more and more difficult and it is going to be incumbent upon the Air Force if they are serious about staying in the tactical airlift business that we have to have that level of support from the Air Force to be reflected in the budget as well.

I am glad to hear your endorsement of the 130–J program, and contrary to what some people have discussed, I don't consider it a competitor to any extent with the C–17 or any other non-developmental aircraft that might be considered.

Having this change in the assets being moved to the theater commanders, how has this worked from an operational standpoint? You mentioned that you would like to have had that situation when you were a theater commander, but from the standpoint of being head of the Transportation Command, how does this change affect you, and does it make your job easier or more difficult?

General FOGLEMAN. In the aggregate, sir, it makes it somewhat more difficult, but to make sure that it was not totally disruptive, one of the things that we did at the joint level working with the Chairman is that while the C–130 aircraft are now assigned to the theater commanders and therefore as components of other CINCs they fall under those CINCs rather than under CINCTRANS, in what we call the Forces For Document, which is a joint document that assigns forces to various CINCs, there were 50 C–130s that were still assigned to CINCTRANS so that I could reach out and use them very quickly. That is kind of how we worked through the tasking issue.

The transfer from Air Mobility Command to ACC, I think, generally went very well because of the way General Mike Loh reached out to bring these folks in. But any time you do this, it causes turmoil on the part of the troops and things like your tanker airlift control elements get fragmented a little bit more.

In the past, this was a much greater problem because you did not have a CINCTRANS, but now that you have CINCTRANS, the CINCs know that they can come for supplemental capability in these areas to me and I can task Mike Loh to provide assets under this Forces for arrangement.

It is one of those things that I think the operational considerations outweigh the administrative fracture that went with it.

Mr. DARDEN. Let me close by just making a comment in another area. You will probably hear a good bit of healthy skepticism from the subcommittee about the C–17 and you mentioned and noted this morning that there seems to be a lot of problems that have been involved with it. I hope you are right.

As a taxpayer, as a member of this subcommittee, as a Member of Congress, I hope you are right, but you will understand how it is going to take a lot of convincing to this subcommittee, because we have been told, and I don't think—I don't want to attribute any bad faith to anybody, but we have been told over and over and over again and the problems still occur.

So if you do see from me and other members of the subcommittee a certain skepticism out there, it has nothing to do with lack of credibility on your part. It is just that—the record is replete, as you know, with evidence to the contrary.

Thank you very much.

General FOGLEMAN. If I could just comment on that, I would tell you that I would not take exception with what Congressman Lewis said, but I am not one of those who is quite in the category of saying we have turned the corner.

I like the term that Dr. Deutch uses, which is he will not say we have turned the corner, but we have a clear view of the road ahead, and the road ahead is that in this 18-month period, we either see performance or we don't see performance.

We have enough of these aircraft now coming into the inventory that we are going to have the opportunity to demonstrate what it can do or it is going to have an opportunity to demonstrate what it cannot do and I think that is critical during this period of time.

C–17 TESTING PROGRAM

Mr. DICKS. Going back to this subject, we talked earlier today about software and about the improvements, but Aerospace Daily on April 20, 1994 says,

> C–17 needs new software laws for heavy braking situations. All 12 of the main tires on C–17 test aircraft P–2 caught fire after a planned steep approach at Edwards Air Force Base in California Monday, sending engineers back to the drawing board on braking control laws, the Air Force said yesterday.
>
> Upon landing and application of full brakes, the pilot heard loud noises from the wheel well and terminated the test, the spokesman said. All 12 tires burned and each of the main gear wheels was badly damaged and one of the brake assemblies was also a loss.
>
> Steep approach and short performance are key requirements for the C–17 program, since the plane is supposed to be able to land on forward-operating fields that may be surrounded by obstacles.

General FOGLEMAN. Yes, sir. I am familiar with that incident. I was briefed on it right before I came in here.

They are saying they want to put software logic into the airplane for what I rather harshly state as to "idiot proof" it because what you had was a flight crew doing flight tests.

They came in. They landed. They tried to get max performance point on the test cycle. They did not get it, they took off and they raised the gear. Then they decided we better cool the brakes, so they dropped the gear again.

The way the airplane is built is there is a four-second delay required—in other words, you are supposed to let the gear come up, get into the wheel well. There is a four-second delay and then you put the gear back down and that will reset the anti-skid logic and everything else.

These guys pulled the gear up and then put it right back down and as a result of that, the logic did not reset. So what they are saying here is if it happened in the flight test thing, it may very well happen in operations so we will "idiot proof" this thing.

We will put something in the computer that says if the gear gets quickly cycled, a light will come on that says you didn't allow the logic to reset. That is about as much as I can tell you that goes into this thing.

Mr. DICKS. But you have got to make an adjustment in software to do that? You are saying the software worked the way it was supposed to work?

General FOGLEMAN. Yes. I am saying the airplane worked the way it was supposed to work. If the crew had not just cycled the gear right back down, we should not have had a problem with that. At least that is what the piece of paper that I have been given tells me.

Mr. DICKS. Mr. Visclosky.

GAO REPORT ON THE C–17 SETTLEMENT

Mr. VISCLOSKY. Thank you, Mr. Chairman.

General, yesterday the GAO came out with a report. Do you want to comment on that?

General FOGLEMAN. Sir, first of all, I have not read that report in any great detail. I have seen a synopsis of the testimony that went on.

I would tell you that the bulk of that report has to do with the advisability or non-advisability of the omnibus agreement that has been negotiated. That is not my area of expertise. I was on the periphery of that during this series of DABs, so anything I would comment on would be on the superficial level, if you will, relative to any of the details.

I think that Dr. Deutch and the folks in OSD Acquisition who negotiated this are in a better position to comment on it.

Mr. VISCLOSKY. I would like to ask a number of specific questions and if you can address them, fine; if not, just advise the committee.

On page 2 of the report, the GAO indicates that DOD has not established specific cost schedule and performance criteria against which to evaluate the improvements in the contractors performance.

These improvements are called for in the proposed settlement and would enable DOD to make an informed decision on whether to continue the program beyond 40 aircraft.

The program schedule calls for this decision to be made before the effects of the desired improvements can be assessed.

Do you have any comment on that? Is the GAO wrong? Have these standards been set?

General FOGLEMAN. I have no idea whether they are right or wrong on that particular issue. I know that as part of this whole ongoing process, the only element of that that I can really speak to is the reliability, maintainability and availability assessment. Anything having to do with the business base or the production side of this thing, I will have to defer to somebody from the Secretary of Defense Acquisition Office.

Mr. VISCLOSKY. You mentioned delivery earlier. On page 7, the GAO indicates delivery schedules have again slipped. This is dated yesterday. Is that true or not true?

General FOGLEMAN. I am not aware of any slip in the delivery schedules.

Mr. VISCLOSKY. So that is not true?

General FOGLEMAN. I didn't say it was not true. I am not aware of a slip in delivery schedules.

The Program Office rather pessimistically said that aircraft P–11 was going to be delivered at least 30 days late. It delivered well in advance of that.

P–12 was going to deliver 45 days late. It is going to be delivered, I am told, well in advance of that.

Beyond that, I know of no slip and I think I would be advised of a slip because of the training program.

Mr. VISCLOSKY. GAO also has information on the Cost Performance Index. I will defer on that.

What about unit price? On page 10, they mentioned that one would anticipate that as production processes improve and the aircraft design matures, the average unit prices would decline from production lot to production lot.

However, as Table 1 indicates, the average target unit price the government has negotiated with the contractor has increased, not decreased.

General FOGLEMAN. That is in the SPO acquisition business. I can't give details on that.

Mr. VISCLOSKY. You mentioned software earlier and some of the improvements that had been made in the last 60 or 90 days.

On page 17, the GAO indicates that while a series of Air Force and contractor reports through January of 1994 show the test program is generally on schedule, the Air Force has identified the following areas of concern that we believe may present a substantial risk to the completion of the program as scheduled.

One, software immaturity has restricted assessment of the operationally representative two-pilot flight crew.

General FOGLEMAN. We were aware of this release being something that was going to occur this year rather than last year. Our training program has been designed to accommodate that.

C–17 LAPES REQUIREMENT

Mr. VISCLOSKY. On the LAPES, has the Army determined that they no longer have that as a requirement?

General FOGLEMAN. We received a letter that was dated 31 March from the Army that says that they do not think that they will ask for a continuing operational requirement for LAPES. They do ask that we continue to test it through the 42,000-pound drop and basically what they are saying is they have gone back and looked at the LAPES requirement that we have had for the C–130 aircraft since Vietnam, and they have seen how few times that it has been used, and to go to the expense of having rigorous training to do LAPES and to buy the specialized equipment to do that.

They are saying that they think that they will no longer have that requirement. So it appears as though that is a requirement that is going to go away. However, I have to really determine what it means when they say we want to continue to do the test to 42,000 pounds. This is an important one because of the RM&A, because at this time, we have a portion of the RM&A dedicated to the LAPES. Please refer to Chart 3.

SPECTRUM OF CAPABILITIES

		C-5	C-141	C-17	Commercial Wide-Body		Commercial Narrow-Body		SLEP C-141
GENERAL	Throughput (MTM/D)	G	Y	Y	G	Y	Y	R	Y
	Cargo volume & payload	G	Y	G	G	Y	Y	R	Y
	Range	Y	Y	Y	G	G	G	Y	Y
	Logistics reliability	R	R	Y	G	G	G	Y	Y
	Acquisition Cost	Y	-	Y	G	G	G	G	Y
	O&S Cost	R	R	Y	G	G	G	Y	R
	Longevity	Y	R	G	G	G	G	Y	Y
COMBAT	Airdrop	Y	G	G	R	R	R	R	G
	Low Alt. Para. Extraction	R	Y	G	R	R	R	R	Y
	Short airfields (3000')	R	R	G	R	R	R	R	R
	Unimproved airfields	R	R	G	R	R	R	R	R
	Survivability	Y	Y	G	R	R	R	R	Y
MILITARY	Throughput (constrained)	Y	Y	G	Y	Y	G	R	Y
	Outsize cargo	G	R	G	R	R	R	R	R
	Oversize cargo	G	G	G	Y	Y	R	R	G
	Drive on/off	G	G	G	R	R	R	R	G
	Air Refueling	G	G	G	R	R	R	R	G
	Ground support reqts.	Y	Y	G	R	R	R	R	Y
	Configuration flexibility	Y	G	G	Y	Y	Y	Y	G

1-10

CHART 3

Mr. VISCLOSKY. If I could ask, on the pamphlet that you distributed to the committee, Chart 4, you have a color-coded chart comparing the characteristics of various aircraft, including the C–17, C–5 and a commercial wide-body.

Would that now change as far as on the combat configuration for the low altitude parachute extraction? Would the C–5 no longer be red and would the wide bodies no longer be red?

General FOGLEMAN. That is right. It would become N/A if LAPES is no longer a requirement.

C–17 RANGE/PAYLOAD REQUIREMENT

Mr. VISCLOSKY. On the change for the payload and distance, one of the items negotiated apparently was to reduce the payload from 130,000 pounds to 120,000, if I am correct.

Would that then change the boxes here under your general characterization on any of these aircraft on page 1–10? Volume and payload, second line.

General FOGLEMAN. No, sir. I don't think that that would change that.

What we did, everybody was focused on the 160,000 pounds for 2400-mile criteria and that was a specification that came when we were looking at reinforcing NATO, the 10 divisions in 10 days-type thing.

When we looked at this, when we were directed by Dr. Deutch to review and go through and determine what we needed in terms of bottom line, thresholds and objectives, we discovered that the way we employ airplanes today in new scenarios and the way our structure is changing that a 3200-mile specification became more important to us.

This was an area that in the past had really not been focused on very much, the 3200-mile portion, so we tried to increase the focus on it by putting an objective and a threshold in there. That is where that weight thing came from.

STRATEGIC CAPABILITY (95 PB)

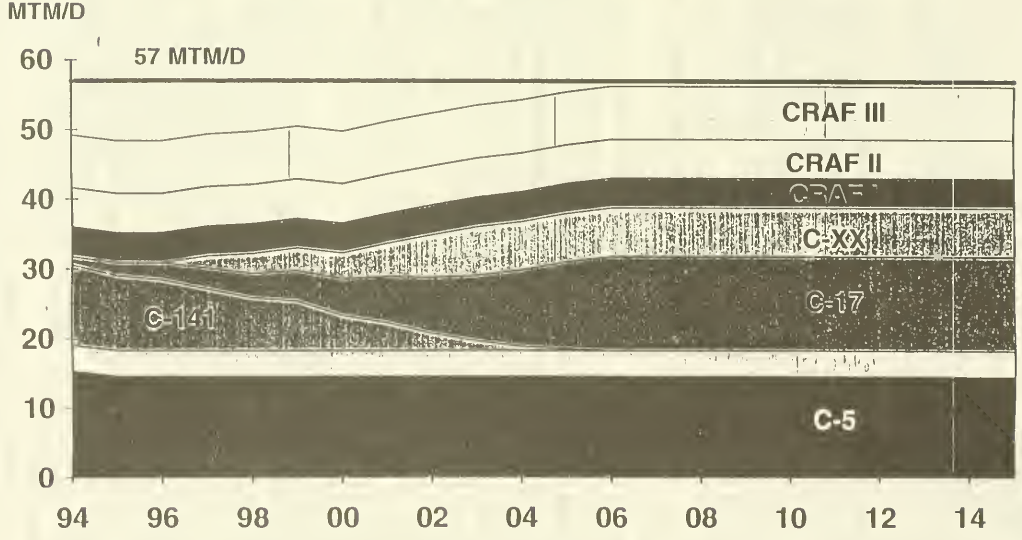

CHART 4

Mr. VISCLOSKY. On page 1–1 of the handout with the charts, you have an orange graph noted as C–XX. I may have missed what that is to represent.

General FOGLEMAN. What this represents, sir, is in the 1995 President's budget that came over here, as we look out into the outyears, that was to represent the difference between C–17s that are being procured in the budget and the total requirement in the strategic line.

If you remember, last year the Congress changed the line from C–17 to strategic lift so that is the capability that those dollars would buy if you restricted the C–17 to the buy profile that you see there and then took the additional money and bought——

Mr. VISCLOSKY. On page 1–1, what is the assumption as far as the number of C–17s in 05?

General FOGLEMAN. In terms of the profile, the assumption is that you would eventually buy 120, but it doesn't occur out until the year 2006. It is a slimmed down profile.

Mr. VISCLOSKY. Two other areas. Referring back—and not in terms of a question, but as an observation on the GAO report, talking about their perspective, the lack of these benchmarks on which to measure contractor performance, that you were deferring a decision until 1995 in which case we will have potentially invested another $5 billion in the program and to date would have invested at that time, November of 1995, $21.3, or 50 percent of the estimated total cost of the program for 40 out of the 120 planes.

I say that to make the observation I guess the most difficult problem you have and all of us I think have an interest in the ongoing study as to what that mix should be, that in the end, you need a hard figure for the C–17.

My concern with the ongoing study is we are imposing a tremendous burden on you to come up with that mix unless we give you a hard number for the C–17, and if we wait until November of 1995, to tell you yes or no on further procurement.

General FOGLEMAN. It is 18 months down the road, so during that 18 months, I think there will be 3 things that occur. As a result of the Bottom-Up Review force structure, which has led us then to go back and look at the basic assumptions in the MRS, the Special Joint Staff J–4 is leading a study that looks at what the overall lift requirement will be to satisfy two MRCs and this is a notional two MRCs.

We are involved in that work with them and the preliminary information in terms of requirements, what we are looking at, is how much of that will now go by sealift, how much will be oversized, how much will be outsized, et cetera.

We are looking at having the preliminary data by June of this year with a coordinated position out of the Joint Staff by October of 1994. The reason this is required is there were things happening in the Bottom-Up Review that are resident now in the 1995 budget that you are looking at.

For instance, in the Bottom-Up Review, there was a decision made that we were going to deliberately fund precision munitions at a higher rate than we had in the past. So by doing that, the overall lift requirement for dumb bombs and artillery shells should go down.

We deliberately funded the afloat prepositioning of two Army brigades. What that will do is change the balance between airlift and sealift, because before, those two brigades would not be available to a theater CINC until day 30 to 45.

Now because they are afloat, they will be available on day 15 and if they are available, that CINC is going to want them, and the only way he will be able to deploy those forces is if we airlift in the headquarters elements and the troops with all the equipment.

So here is a case where sealift has been reduced, but upfront airlift has been increased.

A lot of things in the aggregate will change. In the original Mobility Requirements Study the target airlift capacity was 57 million ton miles. We may see that increased or reduced.

All of this is being looked at now and there are a couple of other items that will occur as we go down the road.

C–5 ISSUES

Mr. VISCLOSKY. As you proceed with the studies as far as the tonnage as well as the configuration of non-developmental aircraft, I think one of the important components is if you end up with 40 C–17s. Do you need an addition to the C–5 fleet?

There are a number of questions that the committee has and I would ask that we have good answers to those on the C–5 program if it came to that.

If you ended up with 40 C–17s and we couldn't do all of your mission with the derivative, what is the status on the C–5 and what costs are we looking at?

General FOGLEMAN. That is why we changed the terminology from commercial derivative to non-developmental aircraft, so that we would not be excluding the C–5 as an option.

Mr. DICKS. On that issue, when you go back and look at what we moved in Desert Storm/Desert Shield with 100 C–5s and 40 C–17s, in any scenario we have enough outsize capability. Whether we did it more rapidly, you have enough—the analysis I have seen is that you had enough outsize. Your problem is in bulk and oversize. That is where the deficiencies were. That is why I am having a little bit of a hard time understanding—is it because of the second major regional contingency that we need additional outsize capability?

General FOGLEMAN. It is a combination of things, sir. It is how those two major regional contingencies would come together and where they are, because when you go look at the infrastructure that you are trying to flow your forces into, it becomes extremely critical in terms of not only having outsize capability, which the C–5 gives you, but then you get into the issue of MOG and can I use all that outsize capability that is there in the C–5 if I am going into an austere or a moderate MOG location?

It makes a big difference. When the Institute of Defense Analysis did its COEA for the study, they looked at three situations: austere, moderate and robust, and the decision on at least looking at 40 as an initial number was based on a robust MOG, a set of conditions that are better than what we experienced in Saudi Arabia.

We define what we experienced in Saudi Arabia as a moderate MOG and the kind of thing that we get into in the Third World, Somalia or southern Africa or somewhere, as constrained MOG.

I think that this sometimes is not well understood in terms of when people start looking at that analysis.

Mr. DICKS. But isn't it true that in Saudi Arabia we had enough outsize capability?

DESERT PERFORMANCE VS MOBILITY REQUIREMENT

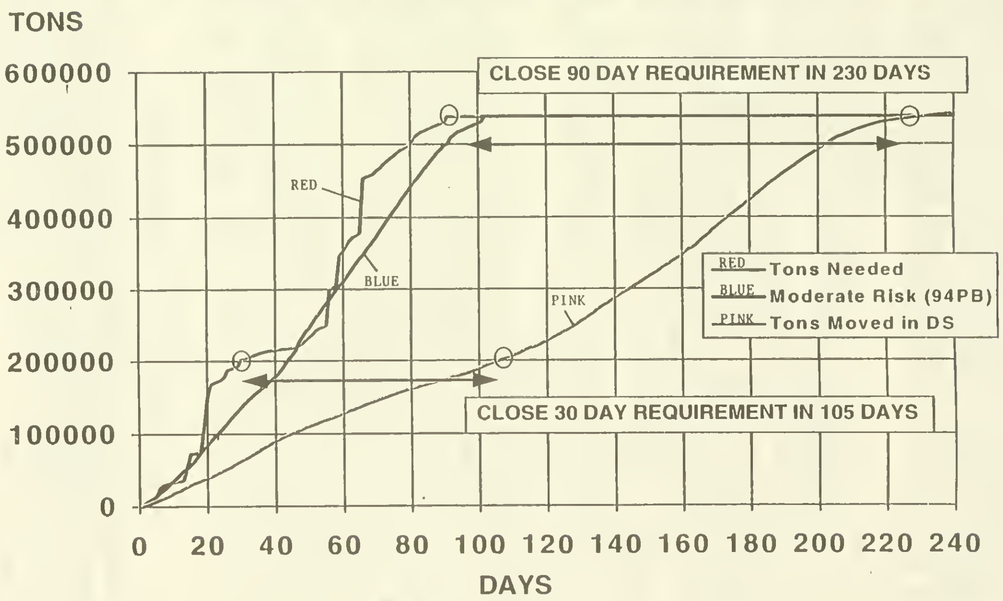

CHART 5

General FOGLEMAN. Yes, sir, as we flowed those forces. Remember—if I could ask you to go Chart 5, on this—in this book. What we show you is the red line on the left is the two–MRC requirements line for airlift from the original Mobility Requirements Study. That sort of pink line that goes up there shows you the rate at which we moved things during Operations Desert Shield and Desert Storm.

So you see that because we were not time constrained, we had the luxury of flowing this force out there over time. But if you are required to move things to meet the CINC's moderate risk time line, that is what that blue line is when you come to the left.

Mr. DICKS. Tell me what that blue line is again.

General FOGLEMAN. Sir, the blue line is the capability that you would have received had you bought the mobility enhancements that were in the Mobility Requirements Study; in other words, 120 C–17s bought on the fiscal year 1994 budget profile. That was the baseline for the MRS.

What it showed you is even with 120 C–17s you did not fully meet the CINC's requirements but the difference between the red line and the blue line, for instance——

Mr. DICKS. It is quite close.

General FOGLEMAN. Is pretty close and the CINC says it is not 100 percent, but that is a moderate risk. I will accept that.

The first one flows out to about day 60 there—actually at day 45, you see the second one starting. That is airlift only and this is this notional two major regional contingency flow that came out of the original Mobility Requirements Study that was directed by the Congress back in 1991–1992.

Mr. DICKS. Do you have any further questions, Mr. Visclosky?

Mr. VISCLOSKY. No questions at this time, Mr. Chairman.

Mr. DICKS. Mr. Lewis?

We will vote and come back. Why don't you take this opportunity.

UNIQUE C–17 CAPABILITIES

Mr. LEWIS. In your testimony, General, you did talk about our experience in the Middle East, Desert Storm and what might have happened, for example, if Azores had not been available to you and what the circumstances would be if we didn't have Azores, Spain and Germany as well.

As a foundation of that commentary, the C–17 has capabilities that you have outlined in pretty great depth.

Would you tell me why you think the C–17 is critical to your responsibility?

General FOGLEMAN. The thing that the C–17 brings to the equation is again most clearly defined by this stoplight chart. We look at its agility, its ability to increase throughput. You can put more of them in a given amount of ramp space under more austere conditions and you can move more of them through.

So a better example would be to describe what we have done in an analytical sense in looking at what we did in Somalia.

We have determined that had we had C–17s available versus the C–5 and 141s that we used in the first few days of Somalia that we could have closed those forces in 3 days rather than 5 days.

That is the kind of thing that a combatant CINC looks to in terms of evaluating risk when he gets ready to go do something.

The fact that the airplane can land on shorter runways—that is why we are very interested in making sure that we do good tests, because this ability to land on a 3,000-foot runway 90 feet wide opens up 5 times as many runways to the C–17 as are available to current types of airplanes.

You say, I have heard this argument that said that you will not use the C–17 in forward locations because of hostilities, et cetera. That is a false argument.

We will do whatever the CINC requires and the CINC who requires it will provide force protection to do it. We get into a situation like we had two weeks ago where we had Americans that needed to be pulled out of an African country. People don't realize how big Africa is.

My command started working that eight hours before we got tasked to do that. We put four C–141s on the ground, put their crews in crew rest and we had two in the Mediterranean, one in Dakar and one in Diego Garcia, and the closest airplane was 10 hours away.

So as that situation started to unfold, and we were talking with JCS, we were talking with EUCOM. We got two of those airplanes airborne and started moving them closer.

We were going to move them into Mombasa. As we got them halfway through the Sudan, it evolved to such a condition that we diverted two of those planes into Bujumbura and kept them there so that we could bring those Americans out.

When a crisis like that starts to develop, we have a central database of airfields. Here was a situation where that was the nearest airfield that we could get large type of evacuation airplanes into to get those Americans out of there, where if we had other options, shorter airfields, they may not have had to convoy as far.

Mr. LEWIS. Testing our real capabilities versus our wish list is very important. I mentioned earlier that it appeared the program had turned the corner in many ways, that several of those airplanes had been delivered within a 30-day time schedule.

They tell me that 10 of 20 of the capability blocks have been released. Yesterday however, on the second go-around on the skid test—did you explain this?

General FOGLEMAN. Yes, sir.

Mr. LEWIS. It was pilot error?

General FOGLEMAN. In my mind, this was something that the air crew, by rapidly cycling the gear, is what generated this problem. The way you keep that from happening is you put a software change in there that will turn on a light——

Mr. DICKS. Do we really know yet? Don't you have to investigate something like that?

General FOGLEMAN. Yes. They will get all the details. I have been given the information that generally says——

Mr. LEWIS. My real point was, these tests are critical and are there remaining concerns that causes you to have serious doubts about areas of capability that are important to you?

General FOGLEMAN. Not only are these tests critical, but what is important is that this initial round of tests is going to be completed by November. As you start a test program, you normally have many different test point that you have to——

Mr. LEWIS. Unfortunately, I have to go vote. We will be back.

[Brief recess.]

NEED FOR ALTERNATIVE AIRLIFTER

Mr. DICKS. You know, last year the Institute for Defense Analysis completed a cost and operational effectiveness analysis regarding the C–17. It is the Committee understanding that OSD and the Department of Air Force also plan to conduct the following studies over the course of the next year, an update of the Mobility Requirements Study, which factors in lift requirements of supporting two MRCs, a series of trade-off studies to determine the right C–17 commercial aircraft mix and/or non-developmental wide-body, and a strategic airlift force mix study undertaken by your Air Mobility Command Analysis Group.

What I don't understand is, we have had these COEA studies. What is to be accomplished by going back and studying this thing over and over again? I don't understand it.

General FOGLEMAN. If there is anything, it has to do with the point that I mentioned earlier about the fact that as a result of the Bottom-Up Review there has actually been a shift in force structure and in requirements of things to carry so what we are trying to do is go back and make sure that there hasn't been any great change in this balance.

So that is what is at the heart of that in terms of the Joint Staff. J–4 is in charge of the overall lift analysis that is being done. Then as a subset of that, once they determine how much is outsize, oversize, sealift, they will turn that back to us working with OSD and with the Joint Staff to essentially run the model that you saw.

Mr. DICKS. I already saw it. My point is, General, we have got this problem with the C–141s. They are not in good shape. I believe the pilots. They say they are 50 to 70 percent of what they were pre-Desert Storm/Desert Shield. They have been used and used and used.

You have a series of problems, including a spare parts problem. If they are stressed again, I think they are going to deteriorate even further. So we know we have that problem.

We have a big question mark around the C–17. I have supported this program since the 1970s and have always believed that we needed a new core airlifter and I wanted it to be a C–17, but there are now questions raised that are rather fundamental.

Can we get the contractor to produce a quality product that meets specifications and will this thing hold together. Then there is the question of affordability. Last year Congress said look at a non-developmental aircraft. But now the administration's position is we are not going to do that until November of 1995.

At the time when we make our decision on the C–17 about whether to go beyond 40 or not, then we will decide what to do about an alternative. You have already said in your best judgment you think it will be less than 120 airplanes. Aren't we going to need an alternative? Why don't we get that thing started? I think that puts pressure on McDonnell Douglas to continue to make the progress that you talked about and maybe correct this software issue that occurred the other day, and at the same time it gives us some additional lift capability; especially if you have a question mark around the CRAF program now.

You said that Stage III couldn't be fully subscribed. It seems to me that with the world situation the way it is with a problem in Korea, and the numbers you presented today are very significant numbers. You have a major requirement there. The situation is deteriorating in Russia and that is looking much more dangerous than it did six months ago.

Why do we want to wait and delay making a decision on the non-developmental. I understand if it is cut off at 40, the C–5 probably has a better chance than the 747 freighter; that if it goes beyond 40 then the commercial derivative looks better.

I can't understand the rationale for this. It sounds to me as if it is a convenient time for the Air Force to make a decision rather than moving out smartly and doing what Congress told you to do. Congress said start the program and you guys aren't doing it. Why is that?

General FOGLEMAN. Sir, again I can only answer based on the rationale that we have which says we don't know which way to go on the non-developmental aircraft.

Mr. DICKS. Go somewhere, General. Make a decision. I just don't think that is good enough when you have the serious problem and you are sitting on it. You have your CINCs who have lost faith in air mobility today. They say it is broken.

General Hoar said it is broken. This is what bothers me. If the CINCs don't believe it is going to work when we have to go to war, that says something. So why not start fixing it now?

You are buying C–17s, but why not do what Congress told you to do, Do your competition and start out smartly on the non-developmental? You are going to need it one way or the other.

General FOGLEMAN. Sir, I think we would be criticized if we went off and started developing a non-developmental aircraft or buying one before we knew our requirements.

Mr. DICKS. You use them in CRAF.

General FOGLEMAN. Yes, sir.

Mr. DICKS. You know what the C–5 does. What is the mystery?

General FOGLEMAN. All I have to do, sir, is have somebody tell me which one to buy, I guess.

Mr. DICKS. Does it take you a year-and-a-half to have a competition to decide which one to buy?

General FOGLEMAN. With all due respect, I am not the acquisitions czar.

Mr. DICKS. Do you agree with this decision personally and professionally?

General FOGLEMAN. The decision that says——

Mr. DICKS. Do you think this is the right way to go, that we should make a decision now and get on with it or do you think we should wait a year-and-a-half and study it and then make a decision?

General FOGLEMAN. I think that we should make the decision as quickly as we can make an informed decision and we don't have everything we need to make that decision right now.

Mr. DICKS. Well, what is it that we don't have?

General FOGLEMAN. As I said before, sir, the Bottom-Up Review force structure has changed. We have an ongoing analysis now to show what the lift mix change is going to be. We should have some preliminary results on that by June this year and as a result of that the acquisition strategy on the NDAA is that they are going to release a draft RFP in the July time frame.

So at that time using those kinds of milestones we should be in a position where we can make informed judgments about what it is that we are looking for.

Mr. LEWIS. General, don't you still say that you need 120, and certainly that affects the cost per aircraft? If you made the decision to buy more C–5s and you put a number out there, doesn't that drive the numbers down on the C–17?

General FOGLEMAN. Yes.

Mr. LEWIS. Even if you have made the decision—you may have already made it.

General FOGLEMAN. I can assure you, sir, the decision has not been made.

Mr. DICKS. From my point of view, 120 C–17s may not be enough any way for 2 MRCs.

General FOGLEMAN. I would agree with you, sir.

Mr. DICKS. So if you know in your dream of all dreams you are going to get 120, that is fantasy. If you get 80, you will be doing a hell of a job. You ought to get another star especially with the load you have had to carry on this project. Seems to me we are going to need another airplane, either the C–5, the 747 freighter, a used airplane.

You have the problems of the C–141s, and they are being retired early. We have Korea, Iran, a problem in Russia. We have CINCs who are questioning whether the planes can operate effectively now.

We have a spare parts problem with the C–141 and a spare parts problem, I am told, with the C–5; is that accurate?

General FOGLEMAN. Yes, sir.

Mr. DICKS. I don't understand why you are not willing to follow the directive of the Congress which says start this other program. I want you to go back, talk to your people in the Pentagon and tell them this Member is not real happy with this being thwarted and pushed off, especially with all these problems I think this hearing has identified today.

C–5 SPARES ISSUE

Tell me about the C–5 problem.

General FOGLEMAN. Fundamentally, the same spares situation that resulted from that audit impacted the C–5 also, so we got behind the power curve in the C–5 spares situation.

The C–5, the numbers on it are the following: 68 percent of our spares bins are filled in the C–5, which is lower than the C–141. The reason that happened is because we haven't been flying the C–141, we are flying the C–5 harder, so we have been unable to catch up.

Basically in the C–5, I have a situation that our analysis shows us that we could fly about 82 percent of our wartime required flying hours at our maximum utilization rate if I were totally stressed in this thing for spares. That is a static analysis, now.

If we went into a wartime surge, depots would try to surge and help that; but the fact of the matter is today my C–5 spares are only 68 percent filled and it has taken a tremendous effort even to get them to that point the way we have been flying the aircraft to this point because the C–141s weren't out there.

Mr. LEWIS. Mr. Visclosky went through the GAO report and you essentially put into the record a disclaimer. Nonetheless, there are serious questions there I would like to have answers about from people within the military, not just from contractor sources.

Would you take that back up and give us for the record answers for those questions.

I have a whole series of them, basically the questions raised by the GAO report.

General FOGLEMAN. I don't know the answers to that, but I know from talking to people in the Office of the Secretary of Defense that in draft, we objected to most of the findings that were in there. They were ignored; the report was finalized or presented yesterday as it was.

If I could have the questions for the record, I will take them back——

Mr. DICKS. I have a series of questions for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

AIR MOBILITY COMMAND

Question. Given that there are situations when roll-on/roll-off capability is critical, isn't it also the case that over the years Air Mobility Command has gained significant operational experience with loading and unloading commercial aircraft, to the point that today it is not considered an operational limitations at main operating bases?

Answer. While it is true that we are very experienced working with commercial aircraft, they remain an operational limitation at main operating bases due to several factors. No commercial aircraft has true roll-on/roll-off capability. They require some type of material handling equipment to lift the load up to the cargo door. The majority of commercial cargo aircraft worked at military bases are wide-bodies, and require wide-body elevator loaders (WBELs) to service them. The current WBEL fleet is old, unreliable, and maintenance intensive. Another problem with commercial aircraft is a weak cargo floor that requires the installation of sub-flooring. There are also limitations in cargo length due to the short turning radius between the loading door and the cargo compartment. Finally the limited number of tie-down points restricts the aircraft payload utilization. Finally, wide body commercial aircraft max out an airfield's ramp space quicker than military aircraft without a corresponding increase in delivered oversize cargo. Our past experience has demonstrated these operational limitations.

Question. I understand that Air Mobility Command is procuring additional loaders and today routinely uses mobile cargo loading systems with C–141 and C–5 aircraft, for oversize and bulk cargo. Is this true?

Answer. Yes, this is true. Air Mobility Command is procuring mobile cargo loading systems. One is the 25,000 pound (25K) aircraft loader and the other is the 60,000 pound (60K) aircraft loader. We have taken delivery of 180 of the 209 25K loaders purchased by the Air Force from Southwest Mobile Systems. The remaining loaders are expected to be delivered in May. An initial contract for eight 60K loaders was awarded to Southwest Mobile Systems on 20 April. We intend to purchase 360 loaders within the next 10 years. Both of these acquisition programs will give relief to the 25K and 40K loader fleets which have an average age of 21 years and have been sustained by an intensive maintenance program. The 60K loader is capable of loading/unloading military and commercial aircraft and is critical to this command for global reach and quality service to our customers.

Question. I understand that Air Mobility Command will be conducting loadability demonstrations with commercial freighters this spring? Would you briefly describe the process and purpose for the exercise?

Answer. AMC is conducting a "time and motion" study of an MD–11, a B–747–400, and a KC–10 at McChord AFB, Washington, for the purpose of collecting data to improve the Airlift Loading Model (ALM) and the Mobility Analysis Support System (MASS) models. These two models are widely accepted in the mobility and analysis communities as the benchmarks against which other models are assessed. These models are being used to support the Mobility Requirements Study—Bottom-Up Review Update (MRS–BURU) and the Strategic Airlift Force Mix Analysis (SAFMA). Both ALM and MASS require improvements to better distinguish among performance capabilities of various commercial freighters. The ALM needs data from this load study to better represent tie-down criteria, floor loading requirements, and weight and balance limits for "oversize" loads on commercial freighters. The MASS model needs data from the AMC load study to better represent the loading and unloading times associated with "oversize" cargo using a 60K loader.

This load study is not intended to be a discriminator for NDAA source selection or for SAFMA mixes. The intent is to improve modeling capabilities. Indirectly, this data supports the NDAA process, but it really serves as a means to validate data that will feed these models for a decision.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

Mr. DICKS. Let me ask you one final thing on the question of—are these the same people who are doing the other study?

General FOGLEMAN. Part of those folks.

BRIGADE AIRDROP CAPABILITY

Mr. DICKS. You and I have talked about the requirement for 100 transports that have air-drop capability.

General FOGLEMAN. The brigade air-drop capability.

Mr. DICKS. Can C–130s handle that? What if you have less than 100 C–17s and you get rid of all your C–141s?

General FOGLEMAN. Then probably what will happen is we will give that up as a national capability. What you have is——

Mr. DICKS. C–5s can't do it. They don't cure that problem.

General FOGLEMAN. No, sir. The problem with the C–5 in the air-drop mode is that when we got the airplane early on we ran tests on trying to drop out of the C–5. What happens is the first guys across the drop zone are okay, but that airplane creates a lot of turbulence and you are familiar with vortices and how they kind of drop and flow behind an airplane.

So the first guys out are okay, but the guys who start coming out of the aircraft behind it in the sticks start getting beat up by turbulence. Generally we have said that the C–5 to this point is not a satisfactory air-drop airplane even though people can jump out of it and you can drop some things out of it.

But because—if we get less than the number of aircraft required—by the way, the actual number of tails that we need to do this is approximately 70–75 C–141s and you need about 100 to make sure you got 70–75 on the ramp when you get ready to do that. That is where the hundred comes from.

In a C–17, you put 102 troopers out per jump and because the C–17 has a shorter fuselage, it cannot carry as many heavy equipment platforms per aircraft so you need more C–17s if you stay with the current air-drop capability.

Mr. DICKS. Does that requirement make sense in today's circumstances?

General FOGLEMAN. We used it last in Panama and in Grenada.

C–17 TEST PROGRAM

Mr. LEWIS. General, you started to tick off as we were leaving to vote some of the items you are most concerned about before the test phase. Are there critical items that are raising major question marks in your mind?

General FOGLEMAN. I was going to say that the way a test program works is that you have a basket of things that you want to test and normally you test those things at the bottom that give you confidence that you can do the more difficult things when you get to it. So as we come down to the end of this test program, we are actually ahead of schedule in closing out the test points in the test program, but the points that have to be closed out are going to be the more difficult in the test program.

So as the chairman says, this is an aircraft that cannot afford any more surprises. This will be a critical time for us because we are going to be doing very difficult things.

One of the things that occurred recently was that over "G" of the tail. That was the last test point in that test and when it occurred we got that over G on the tail. The aircraft performed well, but things like that may occur as we go out here.

Mr. LEWIS. That is why you have a test program.

Mr. DICKS. Every weapon we used in the Gulf was criticized, yet they all worked when they had to work. I always believe that you can fix these things up as you go along.

Mr. LEWIS. Say we had two more major surprises in the near term; what does that do to you?

General FOGLEMAN. I tell you frankly, and I will catch a lot of flack for this——

Mr. LEWIS. Sorry I asked.

General FOGLEMAN [continuing]. I am very rapidly losing confidence in the test force because as an operator, I have flown a lot of airplanes of all types around the world and some of the major surprises that we have seen at Edwards, I am quite surprised to see them because in several cases there was operator error involved to one degree or the other.

This is the test force that we pay to test this, so if you are going to test an airplane in a deep stall mode, you ought to be able to recognize when you are in a deep stall.

The situation that happened the other day, I will be criticized for saying—this is something an air crew would not do. You were taught in flight school that when you raise the gear handle on an airplane, you allow the gear to come all the way back up before you put it back down.

Here was a case where the gear handle came up——

Mr. DICKS. I thought that in a high-tech era, if you try to make a big move, the computer will stop you in doing it.

General FOGLEMAN. What happened in the tail-over-G situation is they analyzed this and they knew they could not get the airplane to go to the G loading they wanted by an instantaneous input and come off. They calculated if we go hold it back, we can get to the G point.

When they did that, it went through the G point. There have been things that have occurred—that situation where we had the gear doors hit the runway recently is another situation that starts to bother me a bit.

I have talked to General Yates about this. He has talked to his test force. They have stood down the test force to look at these things and talk about it. I am not trying to alibi for the airplane because we have certainly found many things wrong with the airplane during the test, but we don't need to help it and make it worse.

Mr. LEWIS. Thank you.

Mr. DICKS. Thank you, General Fogleman. There will be additional questions for the record. The Committee will adjourn until 1:30 p.m. this afternoon.

[CLERK'S NOTE.—Questions submitted by Mr. Dixon and the answers thereto follow:]

PROJECT DESERT STORM—LESSONS LEARNED

Question. There is a strong case for commercial aircraft derivatives based on the Desert Storm experience. General Fogleman, what lessons do you draw from the Desert Storm experience for airlift, and do you think that Desert Storm is representative of future scenarios? For example, are we likely to have unconstrained ramp space and large airfields in future scenarios? Would airdrop be required? Will support equipment be in ample supply at the airfields?

Answer. The primary lessons we take away from Desert Storm are that there is no such thing as an unconstrained scenario and that decisions to fully commit national assets to a major regional contingency take time. Southwest Asia has perhaps the most "robust" infrastructure of any overseas theater in the world today. We were often constrained in airlift operations to the desert because of factors outside our immediate control. With ramp space limitations, finite fuel storage and delivery capacities, political constraints, and overflight and landing restrictions, USTRANSCOM faced an environment that allowed the delivery of about 3800 tons per day to this "unconstrained" theater. The Mobility Requirements Study—Bottom-Up Review Update (MRS–BURU) requirements call for "moderate risk" airlift delivery profiles that will likely exceed 5000 tons per day. We believe Operation Desert Storm is representative of future scenarios and we should expect to encounter restrictions and constraints in our operations. We plan to overcome those constraints to every degree possible. Investing in aircraft that are capable of operating in more austere environments, planning to deeply material handling and support equipment early, and investigating the benefits and costs of concepts like airdrop and aerial refueling are all important initiatives. We must plan to have suitable agreements with our allies and adequate support equipment in place to allow the air mobility system to deliver.

[CLERK'S NOTE—End of questions submitted by Mr. Dixon. Questions for the record and the answers thereto follow:]

OPERATIONAL STATUS OF AIRLIFT FLEET

Question. General Fogleman, during the course of the fiscal year 1995 budget cycle the Committee has heard testimony from the CINCs of all the unified commands. A recurring theme in their testimony was the inadequacy of the present Air Force airlift fleet to support not only warfighting requirements, but daily peacetime operations as well. The Committee has been informed of several incidents from Somalia to Okinawa where ground troops could not be supported either in actual operations or training missions due to the lack of adequate airlift. To listen to operators in the field, the DoD airlift system is broken. What is your response to the CINCs of PACOM, EUCOM, and CENTCOM who say they are not being supported by your command?

Answer. The nation's strategic airlift system is not broken* * * but it is hurting badly. We need to understand a few important points before directly answering the question. First, the National Airlift Policy directs that we rely on the civil sector for airlift requirements before turning to organic military assets. The results of this is that one-third of our wartime cargo capability and over 90% of our wartime passenger capability is in the fully activated Civil Reserve Airlift Fleet (CRAF). Sealift is much the same—the vast majority of our wartime capability resides in the civil sector. Additionally, over one-half of what remains—our organic military capability—is in the Guard and Reserve. On a day-to-day basis, about one-quarter of the Guard and Reserves "volunteer", or fly and support airlift missions without a call-up. The result is that for day-to-day peacetime and contingency operations, we only have about one-third of the capability we could have with full activation of the CRAF and full call-up of the Reserves and Guard. This situation was made even worse this past fall, when most of the C–141 force was unable due to the weephole problems.

A second important point is my global responsibility as USCINCTRANS. The theater CINCs are concerned with only their theaters—that's how it should be—but we have to balance the critical requirements of each theater against the total daily lift requirement. It is not good when we cannot support our customers' daily requirements, but the peacetime airlift system is not a true indicator of our capability to mobilize for war.

We have the airlift capability to support current war plans, but only if we make some significant assumptions. For example, most plans call for immediate and full call-up of the Reserves and Guard and immediate activation of CRAF. The airlift system is ready to mobilize, but depends on the decision to mobilize. We can support one major regional contingency (MRC), with some heroic assumptions.

The requirement to fight and win two nearly simultaneous MRCs is a far more challenging requirement. ———.

The nation desperately needs more airlift capability if we are to support two MRCs.———.

Question. Update the Committee as to the operational status of each element of the airlift fleet. In your answer please include the following information: the total aircraft, inventory (TAI), primary aircraft authorization (PAA), and number of non-restricted, deployable, mission capable, aircraft presently in service and programmed for fiscal year 1999 in the current five year defense plan; the number of aircraft currently undergoing programmed depot maintenance; the average service life and design life of each type of aircraft in the fleet; the level on initial spares and repair parts; the overall mission capable rates for each element of the fleet.

Answer. C–141: Total Aircraft Inventory (TAI): 243, Primary Aircraft, Authorization (PAA): 214, 1999 PAA Available: 136; Depot Maintenance: 94; Average Fleet Time: 36,700 hrs; Design Life: 30,000 hrs; Repair Parts: 78%*; Mission Capability Rate: 76.0%.

C–5: Total Aircraft Inventory (TAI): 126, Primary Aircraft, Authorization (PAA): 109, 1999 PAA Available: 104; Depot Maintenance: 21; Average Fleet Time: C–5A, 14,300, C–5B, 6,300; Design Life: 30,000 hrs; Repair Parts: 68%*; Mission Capability Rate: 67.0%.

KC–10: Total Aircraft Inventory (TAI): 59, Primary Aircraft, Authorization (PAA): 57, 1999 PAA Available: 54; Depot Maintenance: 5; Average Fleet Time: 8,100 hrs; Design Life: 30,000 hrs; Repair Parts: Are under contract with Lockheed; Mission Capability Rate: 91.0%.

KC–135: Total Aircraft Inventory (TAI): 559, Primary Aircraft, Authorization (PAA): 517, 1999 PAA Available: 499; Depot Maintenance: 77; Average Fleet Time: 13,200; Design Life: 43,200 hrs; Repair Parts: 79%*; Mission Capability Rate: 82.0%.

AIRLIFT REQUIREMENTS

Question. With regard to the Strategic Airlift Force Mix study being undertaken by AMC, it is the Committee's understanding that it will be conducted primarily by the Air Force and other DoD personnel. Is this accurate?

Answer. Yes. The primary players in the Strategic Airlift Force Mix Analysis (SAFMA) are Air Force and other DoD personnel. Organizations with active roles in this effort include Air Mobility Command, the Non-Developmental Airlift Aircraft (NDAA) System Program Office (SPO) at Aeronautical Systems Center of Air Force Materiel Command, the Air Force Center for Studies and Analysis, the office of the Secretary of Defense for Program Acquisition and Evaluation, the Joint Staff and both the AF and OSD cost analysis agencies. In addition to this internal expertise, we are employing the capabilities of two federally funded research and development centers (RAND and Institute for Defense Analysis (IDA)) to assist with portions of the SAFMA. The Under Secretary of Defense for Acquisition and Technology, Dr. John Deutch, directed the Air Force to accomplish a "tailored cost and operational effectiveness analysis" of NDAA capability. Air Mobility Command owns and maintains the modeling and simulation capability and is recognized for performing analyses such as SAFMA at the level of detail needed for decisions of this importance.

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*Initial spares are for new aircraft (e.g., the C–17). Aircraft fleet assessment is now based on a weapons system management information system (WSMIS) assessment to give a more accurate indication of capability (i.e., flying hours achievable). The WSMIS assessment indicates by percent our ability to meet wartime flying hour requirements.

Question. What is the requirement to perform a Strategic Airlift Force Mix study so soon after the C–17 COEA?

Answer. Upon review of the most recent Defense Acquisition Board (DAB) results, Dr. Deutch published an Acquisition Decision Memorandum (ADM) that tasks the Air Force to provide additional analysis at the integrated C–17/Non-Developmental Airlift Aircraft (NDAA) Milestone IIIB DAB in November 1995. The "tailored Cost and Operational Effectiveness Analysis" (COEA) called for in the ADM is the SAFMA. Several questions raised during the Institute for Defense Analysis (IDA) C–17 COEA highlight the need for more analysis. Neither IDA or the Air Force were able to satisfactorily address questions concerning the capacity of commercial freighters to carry military vehicles. This capacity would be required of any NDAA vendor because the family of medium tactical vehicles (FMTV) in the Army requires air transportation in large numbers. We also do not have a good feel for the time required to load and unload these types of "oversize" pieces of equipment. We are finishing a "time and motion" load study of commercial freighters at McChord AFB to update our mobility and loading models with better data. Dr. Deutch has also asked for better answers regarding mobility utilization (UTE) rates, maximum aircraft on the ground (MOG) values, and quantification of the "military unique" value of core airlift capability. In addition, the IDA COEA results were not based upon mobility requirements from the Secretary's Bottom-Up Review. This analysis will use the new planning factors, assumptions, and requirements found in the Mobility Requirements Study—Bottom-Up Review Update (MRS–BURU).

Question. Were the results of the COEA not satisfactory to the Air Force? If so, what were its shortfalls?

Answer. The results of the Institute for Defense Analysis (IDA) Cost and Operational Effectiveness Analysis (COEA) were satisfactory to the Air Force; however, we feel these results are based on some heroic assumptions. The baseline results of the COEA assume a "robust" relatively unconstrained infrastructure. This assumes there are nearly unlimited resources available in the mobility system to support airlift operations. Ramp space, fuel, material handling equipment, spares, and manpower were available in quantities to support the full capacity of a fully mobilized airlift system.

We learned quickly in Operations Desert Shield and Desert Storm (DS/DS) that unconstrained infrastructure is a bad assumption. We prefer to model the air mobility system using assumptions of "moderate" constraints in the system; this means we give the mobility system credit for what it could support at the height of operations in DS/DS. IDA did present "moderate" infrastructure results; however, Dr. Deutch's decision to limit initial C–17 procurement to 40 was based, in part, upon "robust" infrastructure results.

Another assumption in previous COEA results is that the B–747–400 used to represent a Non-Developmental Airlift Aircraft (NDAA) was given credit to carry 100% of the "oversize" cargo found in a wartime deployment list. Even with a strengthened floor and an enlarged cargo door, we found the B–747–400 can carry only about 70% to 80% of existing or future Army oversize equipment. The assumptions tend to overstate the capacity of NDAA-type systems to carry oversize equipment. It also presumes material handling equipment (MHE) is in place at all origins and destinations to load and unload this equipment. We are conducting load studies at McChord AFB, WA, so we can update our ability to better represent commercial carriers in our warfighting models.

Question. Why would almost all participants in the programmed Strategic Airlift Force Mix study be Air Force and DoD personnel?

Answer. We are the air mobility experts for moving forces in peace and war. The air mobility system is a very complex and interdependent mix of people, equipment, and infrastructure. With years of experience, we have developed an understanding and knowledge of the many subtleties such as: Maximum On the Ground (MOG), Utilization (UTE) rate, reliability, and maintainability. These factors are important not only for aircraft, but for the remaining system entities as well (air bases, logistics support equipment, air crews, maintenance personnel, etc.).

It's not just DoD but other independent agencies that are working with the Strategic Airlift Force Mix Analysis (SAFMA) team to apply their unique talents to this effort. The Institute for Defense Analysis (IDA) is updating their previous Cost and Operational Effectiveness Analysis (COEA) work to reflect new planning factors, use Mobility Requirements Study—Bottom-Up Review Update (MRS-BURU) requirements, and provide their insight on previous cost analysis. We have just sent a RAND analyst (Ruth Berg) around the world through the air mobility system so that RAND could provide an objective assessment of MOG values for use in the SAFMA. We have contracted with Oak Ridge National Labs to provide documentation and verification, validation, and accreditation (VV&A) of some of the models that will be used for the SAFMA and for Non-Developmental Airlift Aircraft (NDAA) source selection. One thing that makes the SAFMA a unique study is the group of experts (AF, DoD, and others) who are contributing to this process.

Question. Wouldn't the objectivity of the study be less questionable with the inclusion of independent organizations?

Answer. It is in our collective best interest to do what is right for the nation, and we are working hard to do just that. Many independent agencies are already working with us as members of the Strategic Airlift Mix Analysis (SAFMA) team to provide their unique contributions to this effort. The Institute for Defense Analysis (IDA) is updating their previous Cost and Operational Effectiveness Analysis (COEA) work to reflect new planning factors, Mobility Requirements Study—Bottom-Up Review Update (MRS-BURU) requirements, and their insight on previous cost analysis. We have just sent a RAND analyst (Ruth Berg) around the world through the air mobility system so that RAND could provide an objective assessment of Maximum On the Ground (MOG) values for use in the SAFMA. We have contracted with Oak Ridge National Labs to provide documentation and verification, validation, and accreditation (VV&A) of some of the models that will be used for the SAFMA and for Non-Developmental Airlift Aircraft (NDAA) source selection. One thing that makes the SAFMA a unique study is the group of experts (AF, DoD, and others) who are contributing to this process. We continue to seek support of independent organizations that will complement all of our studies.

C–17 RELIABILITY TESTING

Question. Reliability, Maintainability, and Availability (RM&A) testing of the C–17 aircraft is currently scheduled for July 1995. This testing will require 12 similarly configured C–17 aircraft for a thirty day test period during which the aircraft will fly in actual peacetime and wartime lift scenarios. The Committee has already received testimony this year identifying this test as the key remaining technical event in the C–17 development program. The results of this test will also be a key input into the November 1995 Defense Acquisition Board (DAB) decision as to whether to proceed beyond the acquisition of 40 aircraft. Do you feel that as the C–17 program is now progressing you will have 12 similarly configured aircraft available for RM&A testing in July 1995? Do you believe these aircraft as configured after modification will be able to provide meaningful test results?

Answer. All 12 aircraft used during the RM&A testing will be similarly configured to perform each of the 25 Operations Order (OPORD) mission profiles. These aircraft should provide the required data to achieve meaningful test results.

Question. Do you share the concerns of the C–17 program office and manufacturer that the present C–17 reliability performance is dangerously below acceptable testing criteria?

Answer. We are unaware of any statement from the C–17 program office or manufacturer that characterizes performance reliability as "dangerously below acceptable testing criteria". This is not to say that we haven't had any development issues in this area that are germane to any new weapon system going through its testing phase.

Primary factors for the C–17 to meet some of the reliability criteria can be found in system immaturity, small sample size, design instability, continuing modification, waivers and deviations. I feel that none of these challenges are insurmountable.

I am confident reliability will improve as manufacturing and development deficiencies are eliminated. Current maintainability criteria exceeds Operational Requirements Document (ORD) specifications. I still anticipate declaring the C–17 Initial Operational Capable (IOC) in January 1995.

Question. At what point and under what circumstances would you recommend delaying RM&A testing beyond the scheduled date?

Answer. If there were some unforeseen problems with production and delivery of aircraft to the operational unit at Charleston then I might recommend delaying the RM&A test. The latest time frame for completing the Reliability, Maintainability, and Availability (RM&A) is August 1995. The current schedule provides time to bring together the en route structure and required aircrews for the multibase, operationally representative evaluation. Additionally, it allows time for the necessary data collection and analysis to support the integrated C–17/NDAA decision in November 1995. The requisite number of C–17s are on schedule and will be available to perform the required evaluation profile which will demonstrate how we intend to use the C–17 in its peacetime and wartime roles. Testing is scheduled to be completed with sufficient time to properly evaluate test findings. These RM&A findings and the Strategic Airlift Force Mix Study Analysis (SAFMA), scheduled for completion in the same time frame, will support the Milestone IIIB decision in November 1995.

Question. How do the daily utilization rates scheduled for RM&A testing compare with the C–17 utilization rates used in the recently complete Cost and Operational Effectiveness Analysis? How do these rates compare to the actual rates in the field for other parts of the airlift fleet?

Answer. As we look to the future there are two very distinct periods in terms of C–17 utilization (UTE) rate measurement. The first is the Reliability, Maintainability, and Availability (RM&A) evaluation currently slated for July 1995. The evaluation is a backdrop for gathering information on the immature C–17 system and comparing its performance with the specification reliability and maintainability growth curves. The current draft operations order for the evaluation has the following UTE rates for each segment: 4.07 peacetime, 16.2/16.6 two day wartime surge, and overall seven day wartime average sustained rate of 11.78. The UTE rates used in the recent COEA were the mature rates: 3.98 peacetime, 15.2 surge, and 13.9 sustained.

The second period will occur with maturation of the C–17 fleet and the cost and operational effectiveness analysis (COEA) uses this mature system UTE rate for baseline evaluation of each type of aircraft. As you are all aware, the effectiveness of the C–17 as compared to other weapon systems in the COEA is highly dependent on achieving its wartime UTE rate. It is designed to be a reliable system, with multiple redundancy of critical systems and ease of onload and offload. These are the primary reasons we expect the C–17 to have a higher UTE rate than aircraft in today's fleet. For comparison, the KC–10 is our most reliable aircraft with a 93% mission capable rate; however, it takes a long time to onload and offload. The C–5 is easier to onload and offload; but, it is only capable of performing the mission 75% of the time. It is the combination of high reliability and ease of loading that support the C–17's ability to maintain a higher UTE rate than any of the aircraft in the AMC fleet today.

C–17 OUTSTANDING TECHNICAL ISSUES

Question. Several major known technical difficulties still remain outstanding on the C–17 aircraft. One of them is the left-side lock on the aerial delivery system which will not disengage when the aircraft is placed in a 5 degree nose high altitude. It is the Committee's understanding that this deficiency is a major concern to the Air Force and Army and all agree that a significant modification is going to be required. The U.S. Army has discontinued test jumping of live paratroopers after 27 of 124 (22 percent) troopers experienced contact of their chutes with the aft fuselage of the C–17. The Army does not plan further live jump tests until they are convinced that the problem has been resolved. Are there any plans to reduce specifications regarding dropping of paratroopers and their equipment in light of this problem?

Answer. A significant modification of the C–17 is not required. The new lock is a form, fit, and function replacement for the previous lock and requires no modification to the aerial delivery rail system currently being retrofitted into the C–17. The contractor selected a new lock design on 15 April 1994. A variation of the new lock design has been successfully tested in the laboratory. Four new locks will be delivered to the contractor in early May for qualification testing. A full modification kit will be delivered to Edwards AFB for flight testing in July.

There are no plans to reduce the operational requirements or specifications for dropping paratroopers and their equipment resulting from parachute contacts with the fuselage. The C–17 test force is engaged in resolving parachute contact with the fuselage through a combination of dummy drops and airflow surveys. The objective of the current test effort is to define an aircraft configuration and paratrooper rigging combination that will provide an acceptable solution. An optimized set of candidate solutions should be defined by mid-June for resolution by early July. Parachute contact with the fuselage is not a unique issue for the C–17. C–141A and C–141B flight test programs both encountered parachute contacts with the fuselage. These were successfully resolved in the normal course of the flight test program, and the C–141 has been the mainstay of our airdrop fleet.

Question. The Army has also recently determined that they no longer have a requirement for the low altitude parachute extraction system (LAPES) capability for the C–17 aircraft. What would be the potential cost savings of discontinuing development and testing of LAPES in the C–17?

Answer. We still have a requirement to establish the C–17 LAPES capability, and testing is already in progress. The drogue and extraction parachute testing phase has been completed successfully. Single platform load extraction testing is scheduled to begin May of this year, while all LAPES testing is scheduled to be completed by the end of November 1994. This test program supports the Headquarters United States Army Training and Doctrine Command (TRADOC) and Air Mobility Command (AMC) concerns.

I understand the XVIII Airborne Corps at Ft Bragg NC stated they no longer have a C–17 LAPES requirement. However, last month TRADOC provided AMC a memorandum outlining their requirements for the C–17, to include LAPES. Although they stated their current analysis does not support a 60,000 pound operational LAPES requirement for the C–17, the Army continues to support C–17 LAPES testing to 42,000 pounds, which is their current operational requirement.

I am not in a position to address the cost or cost savings from discontinuing the development and testing of LAPES capability. I will have to defer that analysis to the Air Force Materiel Command, who is responsible for the test program.

Question. Are there other users of the C–17 who have indicated a requirement for LAPES?

Answer. No, I do not know of any other customer who indicated they have a LAPES requirement today. However, given the future threat environments we and our customers may be tasked to operate in, LAPES could be the required delivery option.

C–17 RANGE/PAYLOAD SPECIFICATION

Question. It is the Committee's understanding that as a result of the proposed C–17 "settlement" new range and payload specifications for the C–17 have been developed. For example the present contract requirements for a "heavy logistics" mission is 130,000 pounds carried for 3,200 nautical miles. The relatable figures cited in the settlement are 120,000 pounds carried for 3,200 miles. Other load factors have also been reduced under the terms of the settlement. Since testing of the aircraft is still not complete, do you see load factors being increased or decreased?

Answer. The relaxing of the range and payload specifications for the C–17 transport as part of a Pentagon settlement with McDonnell Douglas does not pose an operational problem. Please understand that range-payload capacity and planned load factors are two different things. We anticipate carrying average loads of about 90,000 pounds over 3,200 nautical miles before stopping or aerial refueling as needed. Air transportable cargo tends to occupy the full volume of the cargo compartment long before it exceeds payload weight capacities. These volume constrained loads weigh much less, on average, than the capability called for in the C–17 specifications. Fewer than 1% of all missions headed to a Major Regional Conflict (MRC) are carrying loads that would exceed 120,000 pounds and require shipment of 3,200 nautical miles. This specification is not considered the most critical. Requirements have evolved in response to our changing national defense needs (e.g. new world order, regional contingencies, humanitarian missions, etc.).

An absolute critical leg for us in this new world is how much this airplane can carry 3,200 nautical miles. We established a 110,000 lb payload threshold at the 3,200 nautical mile range, and the C–17 exceeds this requirement. Although we have a good idea of the C–17's final range/payload minimum capabilities from these revisions, as the developmental testing comes to an end, it appears these capabilities will improve.

C–141 AIRCRAFT

Question. General Fogleman, discuss in general and provide details for the record as to the current operational status of the C–

141 aircraft fleet. Include in your answer the following information: the total aircraft inventory (TAI) and primary aircraft authorization (PAA) figures; the number of aircraft under flight restriction; the number of aircraft undergoing programmed depot maintenance (PDM) and the annual number scheduled through 1999; all identified structural deficiencies and the corrective actions being taken; the design life and average service life of the fleet; the level on spare and repair parts to support the fleet; the overall mission capable rates of the fleet today and projected for the end of 1995; and the present C–141 retirement schedule.

Answer. The following information will answer your question on the current operational status of the C–141 fleet:

a. The current fleet Total Aircraft Inventory (TAI) is 243, the Total Primary Aircraft Authorization (PAA) is 214, and the Total Active Primary Aircraft Authorization (PAA) is 162 for FY 94.

b. A total of 149 of 243 aircraft are unrestricted, giving us 52 aircraft that are under some type of flight restriction: 48 are waiting wing panel replacement, 4 are in depot maintenance programs.

c. A total of 94 aircraft are in depot maintenance programs. This includes 47 scheduled and 47 unscheduled (including 34 wing panel replacements) aircraft. The annual number scheduled through 1999 will be: FY 95–46, FY 96–43, FY 97–38, FY 98–32, and FY 99–29.

d. A total of 196 of 243 aircraft have been returned with unrestricted wings. An additional 61 have been repaired but are in depot status for other reasons. 47 more will finish wing panel replacement by 31 December 1994.

e. Original service life was 30,000 hours. The service life is increased to 45,000 hours when modifications are completed and certain components are replaced. The required modifications were identified when the airframe was extended during the late 1970s. Average fleet hours is 36,700 hours. ———.

h. The last active C–141 aircraft is planned to retire in FY 3. C–141 TAI retirement schedule is as follows:

Fiscal year:	
1994	0
1995	2
1996	18
1997	30
1998	23
1999	8
2000	36
2001	20
2002	28
2003	28
2004	28
2005	9
2006	13

Question. Is the Air Force revising the present retirement schedule as part of the 96 POM process?

Answer. No, we are not revising the present retirement schedule as part of the 96 POM. We plan to retire the C–141 from the Active force by FY03 and from the Guard and Reserve by FY06. There are no plans to change these final retirement dates.

Due to the present uncertainty with the C–17 and Non/Developmental Alternative Airlift Aircraft (NDAA) programs, we are looking at the option of retaining a few more C–141s in the years between FY96 and FY01, each for a year or two past the previously scheduled retirement date. This action will increase flying time for some of the aircraft but will not effect the final Active, Guard and Reserve retirement dates.

The average age of our C–141 aircraft is 36,000 hours and we fly them an average of 800–900 hours per year in the active force. With a service life of approximately 45,000 hours, time is running out for this aircraft, but every possible step is being taken to extend the aircraft service life.

Question. According to the Committee's investigative staff, many of the current structural problems associated with the C–141 were originally identified in the late 1970's and early 80's and are only being corrected today after large portions of the fleet have been grounded as a result. Is this accurate? Why has the Air Force failed to take the required preventative actions to maintain a mission capable C–141 fleet?

Answer. We have not ignored required preventative actions nor have we delayed required fixes to identified structural deficiencies in maintaining the C–141 fleet. The current C–141 situation is a result of accelerated aircraft utilization to meet worldwide contingency operations coupled with more effective means to identify structural wing deficiency.

The potential for weephole cracks was first demonstrated in 1977 after 96,000 cyclic test hours on the full scale fatigue test article, and in 1983, Lockheed recommended cold work of all weepholes prior to achieving 30,000 flight hours. In 1989 as aircraft were approaching the 30,000 hour point, we began the inspection process and actually reworked 17 aircraft between 1989 and 1991. However, by 1991 we were finding very few cracks using existing methods. At that same time, depot capability was being exceeded due to an immediate need to repair wing cracks in the 405 section. Concurrently, aircraft flying hours accelerated due to Operation Desert Shield-Desert Storm, and subsequent contingency taskings thru 1992.

In Jan 93, aircraft 66–0186 was selected for teardown to supply the scientific advisory board information for service life extension decisions. Due to the fact that more modern technology was available than in 1989, more weephole cracks were detected. Today, only 52 aircraft are under some type of flight restriction.

Question. The spare parts situation for the C–141 fleet also appears grim. According to the investigative staff, data from your command shows that:

Readiness Spares Packages (RSP) are filled at only 18 percent of required levels.

All Air Mobility wings report maintaining aircraft as "hanger queens" to cannibalize spare parts and indicates that cannibalization has become the normal way of doing business.

Over the past three years C–141 funding levels for stock replenishment has averaged less than 50 percent of the peacetime requirement.

Why is the Air Force allowing the C–141 spares situation to deteriorate to dangerous levels?

Answer. Spare parts fill rates dropped to unacceptably low numbers as a result of the level of priority afforded airlift spares. The

RSP fill rate dropped below 60 percent and from FY91 to Aug 93 stayed between 52 and 58 percent. In late 1993 we identified this prioritization problem to the Air Force and a subsequent reprioritization of airlift spares has occurred which is bringing us back to acceptable levels. Currently our RSP fill rate is at 78 percent.

The 18 percent fill rate referred to previously was taken from an Air Mobility Command (AMC) analysis accomplished to articulate the true impact of C–141 spares shortfalls and justify the need for increased repair funding. We used the entire wartime requirement, including the peacetime operating stock (POS) offset, to highlight the problem. We showed that if you filled the POS offset to 100 percent, remaining spares would only fill 18 percent of the RSP required, not the published 55 percent RSP fill rate. The bottom line is we are working aggressively to accurately convey our requirements and improve airlift support.

Cannibalization (CANN) is used to ensure mission readiness, but is kept to an absolute minimum. CANN aircraft are used only as a last resort, and are rotated, if required, approximately every 30 days. When used, there is not more than one CNN aircraft per type in a given wing.

Question. Also according to data furnished by your command, in order to absorb excess pilot training graduates, the Air Force is overmanning C–141 wings. It is reported that C–141 aircraft commander and copilot positions are overmanned 134 percent and 128 percent respectively. Since pilots drive training requirements, increased sortie demands are being placed on the C–141 at the time of reduced availability. How many more dedicated training sorties are required for the C–141 fleet as a result of pilot overmanning? How does this impact the availability of the fleet for peacetime missions and add to the long-term wear and tear of the aircraft?

Answer. Specifically, in 1994, Air Mobility Command (AMC) plans to add 1,711 flying hours to accommodate additional pilot hires into the C–141. This equates to approximately 425 sorties. Despite this over manning, we are reducing the amount of flying time per C–141 airframe from the historical average of 1,100 hours to about 850 hours. Additional savings in hours will accrue as we complete our planned upgrade to the current simulator system and transfer flying events.

The additional sorties add under one percent of the annual C–141 program. We see minimal impact on required support for peacetime missions and wear and tear on the C–141 fleet.

Question. When one considers that the Air Force has been slow to address structural problems associated with the fleet, regularly underfunds required spare and repair parts, and uses employment concepts that unnecessarily shorten the service life of the aircraft, it is hard not to conclude that it is a matter of low priority for the Air Force to adequately maintain the C–141 aircraft. General, does the Air Force need to justify the C–17 so forcefully that the C–141 has been allowed to fall into its present state?

Answer. Maintaining the health and capability of the strategic airlift force and ensuring that we have a force that can meet present and future requirements is my top priority. The Air Force has made informed management and engineering decisions on how to anticipate, inspect for, and correct structural problems in the C–141, throughout its life. We've predicted every structural problem; some were handled with immediate modifications and others with increased inspections. The operations tempo that the nation has demanded of the airlift force drove us to overfly our programmed flying hours, and consume more spares than budgeted. We are resolving this shortfall by redirecting additional funds to support increased flying hours and spares requirements.

The C–141 has been flown hard, and served us well, for almost three decades. We've flown it well past its design service life of 30,000 hours, and the fleet is rapidly approaching its extended service life of 45,000 hours. The C–141 is our current core military airlifter and critical to meeting our nation's airlift requirements. We are doing everything in our power to keep it healthy and ready to go to war. This is why it is so important that we get a C–17 like capability to start taking on the role of the next "core airlifter".

Question. Should the Defense Department decide to terminate the C–17 program after procuring 40 aircraft one alternative to meet airlift requirements is renewed production of the C–5. Discuss the operational pros and cons of an enlarged C–5 fleet in lieu of the C–17.

Answer. Pros: The C–5 is able to carry all types of air-transportable cargo: bulk, oversized, and especially outsized. The current enroute system is able to support the airframe. Load crews are familiar with the airframe, users are knowledgeable of the C–5 load characteristics, and there is a current in-place training system. Without the C–17 the C–5 is our only other aircraft capable of meeting the outsize lift requirements of the theater CINCs. In addition, no outsize capable commercial derivative currently exists.

Cons: Additional C–5s won't provide what we need. The C–5 is the most manpower intensive aircraft in the inventory. The programmed crew size for the C–5 is 6.5 people per crew; for the C–17 it is 3 people per crew. The maintenance manpower required for each PAA C–5 is 52; for each C–17 only 38 are required. The C–5 is limited by its 1960s technology for avionics, instrumentation, engines, flight controls, and basic structure—all more expensive to maintain than the C–17's 1980s technology. Any new C–5 with these modifications would certainly cost more than the prices quoted for a "C–5B" restart. The C–5 is the most complex aircraft designed, with the largest logistics requirement. Because of this complexity, C–5 reliability and maintainability is poor. Today's mission capable rate for the total force is approximately 67%. During Operations DESERT SHIELD and DESERT STORM, C–5s had a mission capable rate of 68%. The C–5 has limited ground agility, cannot operationally back up, and is limited to airfields with large parking ramps and wide taxiways. The C–17, with operational backing and ground agility, can operate into more airfields, better utilize limited resources, and requires fewer parking spaces. We plan on using the C–17 as our primary strategic airdrop platform as the C–141 retires. The Cost and Operational Effectiveness Analysis (COEA) confirmed that Maximum On the Ground (MOG) constraints are the most limiting factors to any airlift throughput and that the C–17 is most resistant to MOG constraints. The C–17 gains this advantage through its ground agility and higher utilization rates compared to the C–5. If the C–17 performs as planned, it is clearly the best military airlifter for our future requirements.

Question. What modifications to the C–5B baseline configuration would need to be made for newly produced aircraft?

Answer. To modify the C–5B to meet the capability requirements for a military, non-developmental airlift aircraft (NDAA), as Air Mobility Command has identified in the current draft of the C–XY portion of the NDAA Operational Requirements Document (ORD), the aircraft would need the following: a new or greatly improved aircraft engine to meet FAA Stage III noise and pollution standards, substantial improvement in Avionics, Reliability, Maintainability, and Availability (RM&A), formation station keeping equipment for equipment and personnel airdrops, and manpower reductions for both aircrew and maintenance operations.

Question. What is the present capability of the C–5 to operate in forward areas and austere airfields?

Answer. The current capability of the C–5 to operate in forward areas is limited. The C–5 is operationally restricted to airfields with paved runways which are at least 5,000 feet long, 147 feet wide, and have at least 75 foot wide paved taxiways. A waiver is required for operations into runways shorter than 6,000 feet. Additionally, the minimum runway width for 180 degree turns is 150 feet. Special qualification crews have been trained to land on 5,000 foot by 98 foot paved surfaces. An infrastructure for the forward area is not required when rolling stock is the type of cargo delivered. For palletized cargo delivery, personnel and material handling equipment are required for uploads and offloads.

An austere field is defined as having an unpaved landing surface under 4,000 feet long, 60 to 110 feet wide, less than 100,000 square feet of ramp space, and 50 foot wide taxiways. The C–5 is not capable of unprepared surface operation and off-runway capability. Three different Operational Utility Evaluations determined that the C–5 could not operate on unprepared surfaces. The engines caused foreign object damage to runways and taxiways up to 200 yards behind, rendering these surfaces unusable. In addition, extensive damage to landing gear and components would result. Therefore, the C–5 will continue to be restricted to operations on paved surfaces.

Question. Can C–5 operational performance be increase by improved flight and training procedure?

Answer. Yes, but it would be cost prohibitive in terms of training hours and bring with it greatly increased risk to the aircraft and crews. The C–5's size advantage becomes a liability when operating in forward areas and austere airfields. These airfields have narrow taxiways and much smaller parking areas that greatly restrict the number of C–5s that could use the airfield. At great expense we have four special operations crews trained to land on runways as short as 5,000 ft long and 98 ft wide. This capability is used only in support of unique missions in the special operations arena.

NON-DEVELOPMENTAL AIRLIFT ALTERNATIVE PROGRAM

Question. The fiscal year 1994 Defense Appropriations conferees provided $100 million to initiate a non-developmental alternative airlift program (NDAA) to address current airlift requirement shortfalls and the possible curtailment of the C–17 program. In fiscal year 1995 the Department has requested an additional $103.7 million to continue the program. Why does the go-ahead decision on the NDAA program need to be linked to the fate of the C–17?

Answer. Our requirements for the number and type of Non-Developmental Airlift Aircraft (NDAA) are based on the number of C–17 aircraft we can produce. Our nation needs a militarily significant number of core military airlifters: enough to deliver the outsize cargo in 2 Major Regional Conflicts (MRC's), enough so we can have a standardized platform for unit load planning, and enough to accomplish military and combat missions (e.g., airdrop of troops, equipment, carrying outsize cargo, and unloading at small, austere airfields with limited material handling equipment). The most significant shortfall is in outsize equipment—primarily combat units critical to the theater CINC's warfighting plan. We need to procure non-developmental aircraft, but we should wait until Milestone IIIB is completed, in November 1995, to determine number and type. If we make this decision earlier, we will lack some key pieces of information to include: Mobility Requirements Study—Bottom-Up Review Update (MRS–BURU) of lift requirements, load studies to determine required modifications of a civil air freighter, and better understanding of the C–17's capabilities and performance.

Question. How is the Air Mobility command (AMC) involved in the initial round of trade studies to determine the size and composition of the NDAA fleet?

Answer. AMC is responsible for the accomplishment and reporting of the Strategic Airlift Force Mix analysis (SAFMA). The purpose of the SAFMA is to provide senior level decision makers on the Defense Acquisitions Board (DAB) with the insight and information necessary to make a determination regarding the type and number of Non-Developmental Airlift Aircraft (NDAA) to procure in order to complement the C–17 procurement decision at the Milestone IIIB. If the C–17 decision is for only 40 aircraft, we will need an "outsize" capable NDAA. For a C–17 decision between 40 and 120, the SAFMA will determine the most cost-effective mixes of C–17 and NDAA.

Question. Describe to the Committee the modifications that would need to be made to commercial airliners to enable them to fly military missions.

Answer. There are military unique missions commercial freighters can not be modified to perform. Missions that require the airdrop of troops and equipment (brigade airdrop, Low Altitude Parachute Extraction (LAPES, etc.), missions that require unloading at small, austere airfields with limited material handling equipment, and missions carrying "outsize" cargo (tracked vehicles, Patriot missile batteries, etc.) would require extensive redesign of commercial aircraft.

For the excessive "oversize" equipment requirements that air mobility forces face in the early (pre-sealift arrival) phase of a war, Non-Developmental Airlift Aircraft (NDAA) must address rolling-stock like the family of medium tactical vehicles (FMTV) and HMMVEEs that occur in great numbers. To carry this equipment (weighing up to five tons each) commercial airliners will require cargo floor strengthening, tie-down configuration patterns, and larger size cargo doors. There remain numerous oversize vehicles that no NDAA can address.

The bottom line is that although civilian aircraft may fit the bill in Million Ton Miles Per Day (MTM/D) terms, the real loss is our ability to initially deploy over and outsized units of equipment quickly. Such cargo cannot be easily loaded on commercial airliners.

Question. Would there be a requirement for commercial derivative airlifters to carry outsize cargo? If so, why?

Answer. No outsized commercial derivative currently exists. If this capability is going to come from a commercial derivative aircraft, then it will have to meet these requirements. In the airlift inventory, only the C–5 and the C–17 are capable of handling outsize cargo. The answer depends upon the final number of C–17s procured. We know that 104 C–5s and 40 C–17s are insufficient to meet the outsize demand for two nearly simultaneous MRCs. An NDAA with outsize capacity is needed to close forces on-time. No number of commercial derivative airlifters could get this job done or offset enough oversize and bulk cargo to allow existing C–5s and C–17s to meet the outsize demand.

Question. If the Department eventually acquires 40 C–17s and no more, what is the total requirement for NDAA aircraft? If the full 120 plan complement of C–17s is procured, what is the total requirement?

Answer. These key questions are the very reason the Joint Staff is completing the Mobility Requirements Study—Bottom-Up Review Update (MRS–BURU) and the Air Force is performing the Strategic Airlift Force Mix Analysis (SAFMA). MRS–BURU establishes the airlift requirement and the SAFMA determines the most cost-effective mix of C–17 and Non-Development Alternative Airlift Aircraft (NDAA). Initial indications of MRS–BURU show airlift requirements are equally or more demanding during pre-sealift arrival days than used in the original Mobility Requirements Study (MRS). Early SAFMA indications, based upon MRS–BURU, suggest that more outsize capable NDAAs would be needed if we procured only 40 C–17s.

(CLERK'S NOTE.—End of questions submitted for the record.)

WEDNESDAY, APRIL 20, 1994.

RAND CORPORATION

WITNESSES

GLENN C. BUCHAN
DAVID R. FRELINGER
GEORGE DONOHUE

INTRODUCTION

Mr. DICKS. The Committee will come to order.

This afternoon the Committee will hear testimony from several witnesses concerning the Department of Defense's plans for the continued modernization of the bomber fleet. The Committee is concerned that the bomber fleet as presently programmed in the Department's current five year defense plan may not be adequate to support the warfighting requirements of two major regional contingencies as stated in the Bottom up review.

I have a brief opening statement and then we will hear from the RAND Corporation.

The Cold War is over. The United States must shift its national security strategy from one design to deter and if necessary defeat the Soviet threat to a strategy now designed to address varied and unpredictable regional crises. We must turn our attention to the many unstable Third World aggressors who could easily threaten our national security as well as the security of our allies.

In each day's headlines, we see the numbers of challenges in the international political arena increasing, and becoming even more complex.

The Defense Department strategy is to maintain sufficient military capability to address two near simultaneous regional conflicts. Inherent in this policy is the ability to project power unilaterally at a moment's notice anywhere in the world. But this task is made more difficult as we reduce our forward-deployed presence overseas and as we see a greater portion of U.S. forces based at home.

In many cases the only way we can project power quickly and effectively is to capitalize on the military's most capable responsive system, our bomber force. A U.S.-based bomber force with long range and the ability to carry precision strike weaponry can provide the autonomous capability to deter an attack quickly or to respond and strike critical targets. To meet an invading aggressor, the timeliness and effectiveness of our bombers can be the single best weapon we have to blunt the adversary's attack.

Had Saddam Hussein not paused in Kuwait and had he continued into Saudi Arabia, a capable bomber force may have been the only feasible meanings of stopping the Iraqi invasion in its tracks.

I remain convinced that the proper size and composition of the long-range bomber force has not yet been determined. The Bottom-

Up Review did not seriously analyze this issue other than to mention that the two regional conflicts would require 184 bombers. Yet the current Air Force budget request supports a bomber force structure of only 107 long-range bombers at the beginning of fiscal year 1995.

I have yet to find anyone who can justify such a low force level.

It appears that the Department has not come to grips with the full array of missions that long-range, survivable, conventional bombers can perform. So this is the basis of today's hearing. We have asked the RAND Corporation to provide its independent analysis on the role that conventional bombers can play in meeting our new security requirements and what size force structure is needed to take advantage of this opportunity. These experts have completed a number of studies on this issue and we are looking forward to hearing from the RAND representatives here with us today.

Bomber numbers alone are only part of the answer. We must also determine what capabilities these aircraft can bring to the battlefield, what weapons systems can maximize the leverage provided by long-range bombers, what role does enhanced survivability play in mission effectiveness and in reducing casualties.

Finally, meeting our requirements in an era of increasingly constrained budgets requires us to take advantage of systems to provide maximum leverage for minimum system cost.

Maximizing the capabilities of long-range, survivable, properly equipped bombers is one practical and highly cost-effective approach to meeting this imperative.

I would like to welcome the RAND Corporation, Mr. Glenn Buchan, Mr. George Donohue, and Mr. Dave Frelinger. I have met with these gentlemen over the years and I know of their professional interest in this subject and the many studies that they have prepared for the Department of Defense and for Congress on these issues.

Congressman Lewis, do you have any opening statement or should we proceed with the witnesses?

Mr. LEWIS. Mr. Chairman, I just welcome this hearing in the first place and I have great respect for RAND and others.

Mr. DICKS. They do come from California.

Mr. LEWIS. I have heard that.

Mr. DICKS. I also want to welcome you and just say that one of the scenarios that we should talk about—is how could you use our bomber force especially against an invading armored division. One of the things I have been most impressed with is the analysis that indicates if you had enough bombers that could respond, especially like the B–2 with its stealthiness because it can operate autonomously, and properly equipped with appropriate submunitions, that you could make a major impact on an invading division.

This is a military capability that we simply have not had before, and my hope is that we can talk about that, we can talk about the importance of these kinds of conventional weapons. It is my own belief that a force of 20 B–2s is not enough. I am one of those up here advocating that we go beyond 20, that we need a number in the range of somewhere between 40 and 60 at a minimum.

I think one of the things we, the committee, are interested in is this mix of how many B–52, how can B–1s, how many B–2s, what makes the most sense, what is cost-effective?

Another thing I read in your statement that is really very important and that is between now and the year 2000 we got a major problem in getting these conventional weapons on any of these bombers.

Your statement will be placed in the record. If you will summarize your statement, we will proceed directly to questioning. Mr. Donohue.

Mr. DONOHUE. Thank you, Mr. Chairman and members of the subcommittee and staff, I am George Donohue. I am the Director of RAND Project Air Force.

I thank you for the opportunity to appear before your committee today to discuss the important topic of utility of heavy bombers in the new defense environment. RAND has been studying the survivability and utility of heavy bombers almost continuously for over almost 50 years since the end of World War II in one form or another. This afternoon I have Dr. Glenn Buchan and Mr. David Frelinger with me, these two gentlemen have led the majority of our research over the last 7 years.

This research has focused on the entire United States Air Force bomber fleet, B–52Gs, Hs, B–1Bs and B–2s.

Dr. Buchan this afternoon will summarize our current understanding of these issues, but I must emphasize that because of the rapidly changing international environment, budgets and force structure, our research is still ongoing.

Dr. Buchan will now summarize our current state of knowledge about the roles and limitations of heavy bombers.

Mr. LEWIS. Mr. Chairman, could I ask the gentleman to please tell the committee why you selected these two people. What is their expertise? Why would they be the ones chosen to appear?

Mr. DONOHUE. Sure. Dr. Buchan has had many years of experience both before his coming to RAND, which was over 10 years ago, as well as his entire 10 or 11 years of tenure at the RAND Corporation studying these issues. He has a Ph.D. in mechanical engineering and has published in the area and has led a very large effort on the order of over $1 million a year for almost the entire last 7 years.

Mr. Frelinger has picked up some of this work in the last two years as Dr. Buchan has taken management jobs in the corporation and is no longer as personally involved on a day-to-day basis, but has in my belief the best corporate knowledge right now of our entire analytical studies that are current.

Mr. LEWIS. Thank you.

Mr. DICKS. Good. Why don't you start, Mr. Buchan?

Mr. BUCHAN. Thank you, Mr. Chairman. We have submitted a written statement for the record and provided copies for all the members of the committee. You also each have a set of charts in front of you that I will be referring to in my remarks.

[The joint statement of Mr. Buchan and Mr. Frelinger follows:]

CONGRESSIONAL TESTIMONY

RAND

Providing an Effective Bomber Force for the Future

Glenn C. Buchan and David R. Frelinger

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PROVIDING AN EFFECTIVE BOMBER FORCE FOR THE FUTURE

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Prepared statement for a hearing before the Committee on Appropriations
Subcommittee on Defense
House of Representatives

April 20, 1994

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[1] The views and recommendations presented in this testimony are solely those of the authors and do not necessarily represent those of RAND or any of its research sponsors.

Preface

We are here to discuss RAND's assessment of what is necessary to provide the United States with an effective bomber force for the future. As you know, analyzing long-range bombers has been one of RAND's principal research areas for several decades. Over the last several years, RAND has been studying bombers quite intensively to understand how the dramatic changes in the world, the evolution of technology in critical areas, and budgetary pressures affect the role that bombers should play in the U.S. military and what sort of bomber force would best fit future U.S. needs. We have provided a number of reports and briefings to the Air Force, the Department of Defense, and various Congressional audiences on different aspects of this issue.

The most recent bomber studies that RAND has done for the Air Force are:

- Conventional Employment of B-52s (1987–1988)
- Future Bomber Force Study (1988–1991)
  - Updated in 1992
- Bomber Flexibility Study (1992–present)

The conventional B-52 study defined new ways to employ long-range bombers in conventional operations and laid the analytical groundwork for the more refined operational concepts and bomber applications that we developed in subsequent work. That study also defined the basic technical and operational requirements for cruise missiles for long-range bombers.

The Future Bomber Force Study was a major analytical effort that derived and evaluated a range of alternative bomber force structure options for a range of potential nuclear and conventional missions. That study focused heavily on evaluating the B-2 in the context of the overall bomber force options. We first presented the results of that study nearly three years ago. Since then, we have periodically updated that work to reflect the implications of continuing changes in the world and various programmatic and budgetary decisions that affect the bomber force. The material we are presenting here represents our most recent update of the bomber force structure analysis.

We are currently completing a detailed analysis of some of the modifications needed to make the various bombers effective in future conventional operations. While some of the preliminary results of that analysis are included here, we must defer a more detailed treatment until the analysis is complete. Then, we will be happy to share the results with you.

Issues

Here's what we plan to cover. First, we want to discuss why the United States ought to be interested in long-range bombers in the first place: what unique capabilities they offer and how those might be relevant to the emerging world. Then, we will consider what has to be done to make the bomber force effective. Major topics are weapons and modifications to the bombers. At least equally important is developing effective operational concepts to make the best use of long-range bombers in the new situations that might arise in the rapidly changing world environment. From there, we will address force structure issues, particularly in view of the planned reductions recently announced by the Air Force. We will compare the currently planned force to one that is more optimally configured for the spectrum of future bomber missions. We will conclude by discussing some unresolved issues that future research will have to address.

Why Bombers?

The fundamental characteristics that distinguish heavy bombers from other weapons are their long range and their substantial payload capability. They can deliver large, diverse payloads virtually anywhere in the world in a matter of hours. That means they have inherent advantages in situations where massive and/or sustained firepower matter, particularly if the attacks need to be made at long range from relatively safe bases. To the degree that that kind of capability is important, planners should be interested in heavy bombers.

As Figure 1 suggests, bombers have historically played major roles both in conventional operations and in preparing for nuclear war. Unless there is a complete reversal of current trends in the world, the possible nuclear role of bombers is going to be much less important in the future than it has been in the past several decades. If so, bombers can make the transition to a conventional role much more easily than other strategic nuclear systems. Should the need arise, they could also revert back to their nuclear roles.

Although using bombers for conventional operations is nothing new, there is a new wrinkle in the evolving world. With U.S. military forces shrinking in size and generally withdrawing from overseas bases, the United States has limited options available for bringing force to bear in the early hours or days of an emerging conflict in a remote part of the world. Indeed, heavy bombers could be the *only practical option* in some cases of interest, which means they could fill *a unique niche* in U.S. military capability. That is particularly true in regions where there is no naval presence at the critical moment when the campaign begins or

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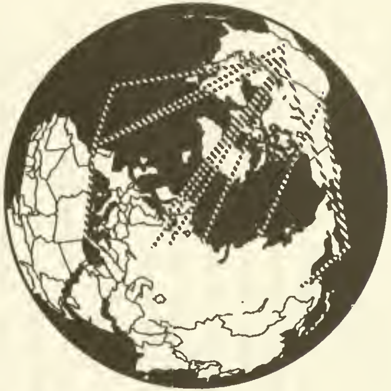
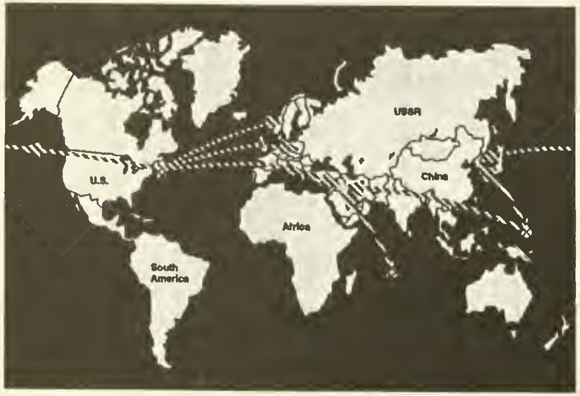
Nuclear Deterrence



Conventional Power Projection



Long Range

- Worldwide power projection within hours
- Sustained operations from relatively safe bases
- Loiter time

Large Payload Capacity

- Massive firepower

Figure 1—The Role of Long-Range Bombers

in situations where either massive or sustained firepower is needed. Moreover, we found that *structuring a bomber force to deal with demanding contingencies in the early phases of a conventional war would provide a bomber force that would be adequate for a full spectrum of other contingencies.*

Our analysis showed, however, that achieving the potential capability of the bomber force to deal with a spectrum of future missions will require some effort: new weapons, modifications to the bombers themselves, and new operational concepts. Then, force level issues can be addressed.

Matching Bombers and Weapons

All of our analyses of using heavy bombers for conventional operations have demonstrated the critical need for better weapons. Moreover, the quite different characteristics of the B-52, B-1, and B-2 make matching the appropriate weapons to the right bombers particularly important.

Figure 2 tells a much more encouraging story than an earlier version did a couple of years ago. Since then, the Air Force has initiated several new weapons programs—JDAM, JSOW, WCMD, in particular—that could remedy a number of the major deficiencies identified in earlier RAND bomber studies. Some limitations remain, as we will discuss shortly, but having actual weapon programs underway in critical areas is an important step. The chart illustrates the substantial payload advantages to the bomber of getting very close to the target. Carrying longer-range weapons to allow the bomber to standoff from targets to avoid defenses comes at the price of reduced payload. Standoff weapons also become more complex and costly as their ranges increase. Choosing the proper standoff range for weapons depends on the capabilities of particular types of bombers to penetrate various sorts of air defenses.

Using larger warheads also reduces the number of weapons that a bomber can carry and may or may not be necessary depending on the types of targets to be attacked. Achieving the right combination of accuracy and lethality against various target classes of interest is the key to weapons effectiveness. We turn to that issue next.

Weapons Effectiveness

Figure 3 shows how the effectiveness of different classes of weapons varies against different kinds of potential targets of interest as a function of the accuracy of the weapons. On the right hand side of the chart are the unguided "dumb"

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	Penetrating bombers			[illegible]
	Very short range	Short range	Medium range	[illegible]
Nuclear weapons	Bombs		Short range attack missile (SRAM-A)? ~~SRAM-II~~	[illegible] [illegible]
Conventional weapons	Bombs, submunitions dispensers – *Inertially or inertial/GPS guided weapons* • 2000 lb bombs (JDAM-1*) • • TMDs (WCMD**) – *Other precision-guided bombs (JDAM-III)**	Have Nap *Joint Standoff Weapon (JSOW)*	*Tri-Service standoff attack missile (TSSAM)*	[illegible] New conventional cruise missile
Typical carriage capability	30 – 80 (≤1000 lb) 16 – 24 (2000 lb)	8 – 22		

* Joint Direct Attack Munition (JDAM)
** Wind corrected munitions dispenser (WCMD)
*** Buy limited to 528 (PAA), 640 (TAI)

Existing weapons
Planned weapons
Possible new weapons

Figure 2—The Proper Matching of Bombers and Weapons is Critical for Developing an Effective Bomber Force

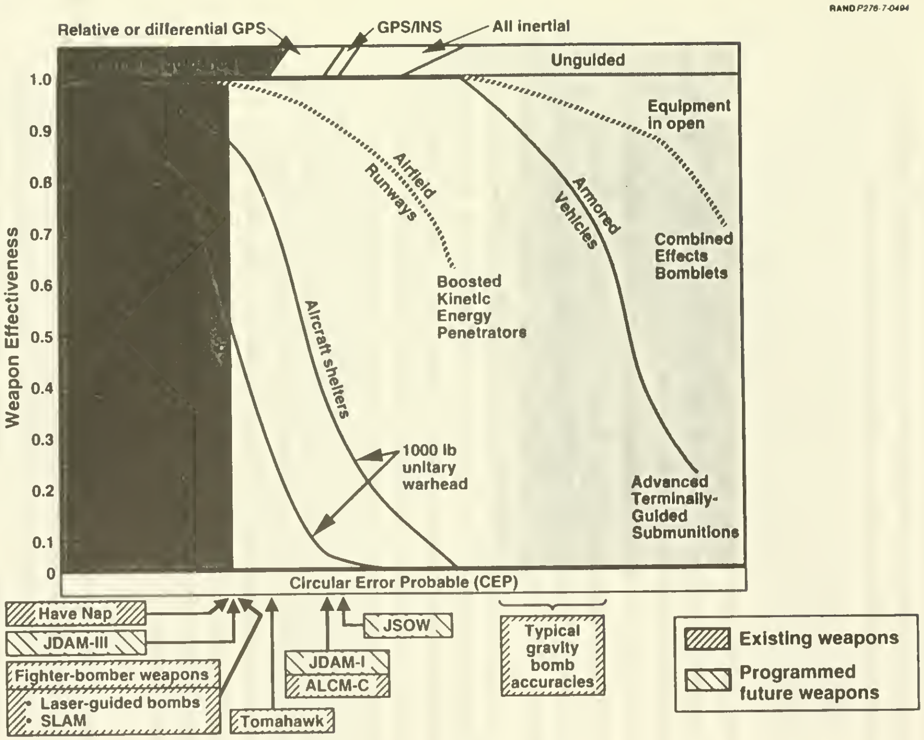

Figure 3—There is a Broad Range of Possibilities for Increasing Bomber Weapon Effectiveness

bombs dropped in great numbers by B-52s during the war with Iraq. The curves show why these attacks were relatively ineffective beyond their ability to terrorize enemy forces and do cumulative damage against masses of relatively vulnerable equipment. The weapons were simply not accurate enough.[1]

On the left hand side of the chart are the laser-guided bombs and other optically guided weapons employed by fighter-bombers for precision attacks during the Gulf War. These weapons achieve their accuracy with terminal guidance. Although laser-guided bombs are cheap, adding terminal guidance to most weapons that would be suitable for bombers, particularly autonomous weapons, greatly increases their cost and complexity. At present, the only bomber weapon that can achieve this sort of accuracy is Have Nap, the short-range missile that can be launched from conventionally modified B-52s. Future cruise missiles or other weapons with comparable or even greater accuracy could be developed for use by bombers.

However, the figure shows clearly that *that high degree of accuracy is not needed for the majority of target classes that could be important for bombers to attack.* Most of the targets lie in a middle range where sufficient accuracy can be achieved relatively cheaply and easily using currently available technology that does not depend on terminal guidance. *It is this class of weapons, which has not been included in the program until very recently, that the bombers have needed most.* Note that various new weapons, including JSOW, JDAM-1, and others, fall into this category. Past discussions of weapon accuracy have tended to ignore this middle range of improved weapons, focusing instead on the extreme ends of the spectrum: inaccurate "dumb" bombs or extremely accurate, terminally guided munitions. Recognizing the value of developing cheap, moderately accurate weapons has been a great step forward in taking advantage of the potential capability of heavy bombers.

Our analysis also shows the value of increasing the accuracy of the full range of bomber weapons, not just large (e.g., 2000 lb) bombs. In fact, we found that in analyzing actual sets of potential targets for bombers, large numbers of relatively small (e.g., 500 lb) bombs with improved accuracy were actually more effective in representative situations than a smaller number of 2000 lb bombs with many comparable or even greater accuracy. Thus, *improving the accuracy of smaller weapons is particularly important to take full advantage of the large payload capacity of heavy bombers.*

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[1] The figure actually overstates the potential effectiveness of unguided gravity weapons for one important class of targets: enemy armor. The submunitions assumed in the figure to be dispersed from unguided munitions dispensers are more advanced than anything in the current inventory. The Skeet submunitions currently being procured by the Air Force would be dramatically less effective if deployed from unguided dispensers dropped from bombers at high altitude. Unguided gravity bombs would be much worse still.

Bomber Survivability and Weapon Standoff Range

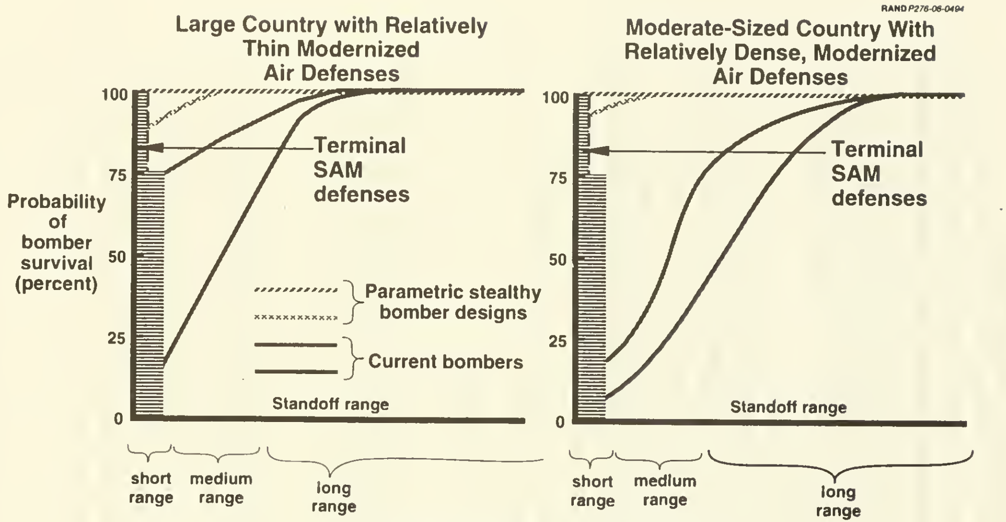
The next problem to consider is the weapon standoff range necessary to allow each of the bombers to survive enemy air defenses. That is primarily a problem in the critical early stages of a conflict when enemy air defenses could still be largely intact, the bombers might have to operate relatively autonomously with little or no support from fighters, and bomber attrition could be particularly damaging both militarily and politically.

Figure 4 shows how the survival probability of different bombers varies as a function of the standoff range of their weapons if they were to attack targets deep inside two very different kinds of emerging regional powers. In one case, the country is very large geographically with relatively thin, but modern air defenses. In the other, the country is relatively small with dense, relatively high-quality air defense. Thus, these two cases cover a broad spectrum of possible cases of interest. Current nonstealthy bombers are included along with a spectrum of notional stealthy bomber designs.

There are two striking conclusions from this figure:

- Both of the older bombers would be at serious risk if they had to penetrate even relatively modest air defenses. *Either would need long-range cruise missiles in order to survive with confidence.* (Recall from the earlier figure that TSSAM does not fall into the long-range category.)
- *Stealthy bombers of the sort shown here should be able to penetrate likely air defenses with relative confidence.* In general, most stealthy bombers could get close enough to their targets to use very short-range weapons (e.g., JDAM, WCMD), thereby taking full advantage of their payload capability. Even the least stealthy bomber design that we considered could get close enough even to heavily defended targets to use a TSSAM-class or even shorter-range missile to suppress the defenses or attack the targets directly.

We examined a large number of countries with different geography, air defenses, and potential target sets, and we found the results shown here to be broadly representative of a whole spectrum of contingencies that could arise in the future. Thus, the conclusions about the potential effectiveness of stealthy bombers and the need for long-range cruise missiles for the older bombers appear to be quite robust.



- Projected future air defenses (c. 2000)
- No SEAD or escorts
- Targets near national capitals
- Optimal bomber routing

Figure 4—Penetrating Air Defenses at the Start of a War

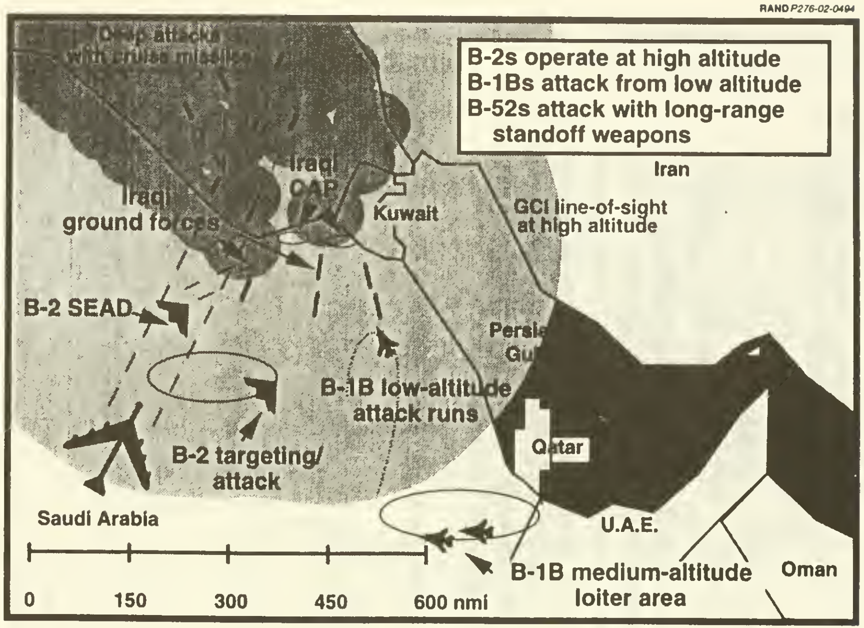
Developing Effective Operational Concepts

The last piece of the equation for making bombers effective in demanding conventional campaigns is developing effective operational concepts. We found in general that the new range of conventional missions that bombers might be called upon to perform *involve quite different operational concepts than bombers have employed in the past.* Some are likely to be quite demanding, requiring modifications to the aircraft, different skills for the bomber crews, significant procedural changes, and higher crew rates.

Figure 5 shows a notional operational concept for making a small B-2 force supplemented by modest numbers of B-1s and B-52s effective in a demanding regional conflict. The scenario involves blunting an armored invasion and attacking fixed targets inside the attacker's homeland prior to or during the deployment of Air Force and Navy fighters or sea-based cruise missiles. A division of labor among the bombers is necessary to make the most effective use of the different characteristics of the various bombers.

- B-52s armed with long-range cruise missiles attack fixed targets inside the country.
- The small force of B-2s concentrates on the critical task of halting the armored invasion.
- A much larger force of B-1s, with the assistance of the B-2s, provides additional firepower to interdict the advancing armor.

To make this concept work, the B-2s have to locate the advancing armored divisions, do as much damage as they can, and then help the B-1s survive in the local air defense environment and destroy the rest of the advancing armor. To help the B-1s, the B-2s would have to pass on target location information to the B-1s, suppress any high-quality, mobile surface-to-air missiles (SAMs) that could threaten them, and help the B-1s avoid any airborne interceptors that might be in the area. That means that the B-2 would have to operate not only as a bomber, but also as a limited battle manager, thus assuming some of the characteristics of AWACS and JSTARS for a very limited battle space. This concept of operations is considerably different from the role for which the B-2 was designed, but it appears to be within the potential technical capability of the aircraft and its onboard sensors, particularly if properly cued by other off-board sensors. Moreover, using two different types of bombers cooperatively is a substantial departure from past operational practice. That, however, is the sort of new thinking that will be needed to take maximum advantage of a small bomber force.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B-2s operate at high altitude
B-1Bs attack from low altitude
B-52s attack with long-range standoff weapons
Deep attacks with cruise missiles
Iraqi ground forces
Iraqi CAP
Kuwait
Iran
GCI line-of-sight at high altitude
B-2 SEAD
Persia Gu
B-1B low-altitude attack runs
Qatar
B-2 targeting/ attack
Saudi Arabia
U.A.E.
Oman
B-1B medium-altitude loiter area
0
150
300
450
600 nmi

Figure 5—Making a Small Bomber Force Effective in a Stressing Major Regional Conflict – A Notional Operational Concept

Such new operational concepts will require modifications to the bombers. RAND's current research on bombers is aimed at fleshing out such concepts, analyzing their technical and operational feasibility in some detail, and identifying needed improvements to the bomber force.

Note that a larger B-2 force would simplify operations, eliminating the need to devise effective cooperative tactics to help the B-1s survive and perform effectively in a difficult environment. It would also eliminate the need for some of the modifications that both bombers would need to implement cooperative tactics. Moreover, a larger B-2 force would be more capable and robust than a combined B-1/B-2 force involving many more total aircraft. However, even without the B-1s, using the B-2 force this would require new operational procedures and changes to the aircraft as well.

Most Effective Combinations of Bombers and Weapons

Taking into account weapons effectiveness, survivability of the bombers, and use of effective tactics, we can now choose the most suitable weapons for each bomber. Table 1 shows the most effective combinations of bombers and weapons.

First, all of the bombers that remain in the force should be able to carry effective very short-range gravity or glide weapons (i.e., JDAM, TMD/WCMD) for use in later stages of a conflict when the air defense environment could be sufficiently benign. Those same weapons are appropriate for the B-2, even in the demanding early phases of a major campaign. The B-2 also needs a short- to medium-range defense suppression missile (e.g., TSSAM) to attack some critical air defense targets (e.g., long-range mobile SAMs).

The other bombers need standoff weapons to survive enemy air defenses in the early stages of a conflict. Either the B-1 or the B-52 would need long-range cruise missiles to execute deep attacks against fixed targets. Even if it were operating on the periphery of an enemy country out of range of its homeland defenses, the B-1 would need a JSOW-class weapon to survive modern mobile SAMs that might protect armored divisions or similar targets. Note that being forced to use JSOW rather than a very short-range weapon reduces the effective carriage capacity of the bomber, roughly doubling or tripling the number of B-1s required to achieve comparable overall effectiveness.

Table 1—Most Effective Bomber/Weapon Combinations

Bombers Stage of the campaign	B-52	B-1	B-2
Early	• Long-range cruise missiles	Interdiction: JSOW Deep attack: long-range cruise missiles	• JDAM • TMD/WCMD • Short-/medium-range defense suppression weapon
Later	• JDAM • TMD/WMCD	→	→

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Modifying the Bombers for Effective Conventional Use

However, the bombers themselves will need modifications as well if they are to be used as effectively as possible. Table 2 illustrates the general types of modifications that be might pursued to ensure the flexibility of the heavy bomber force across a wide spectrum of missions.

The modifications fall into four general categories:

- Enhancing the capability of the bombers to use better weapons by adding reliable racks that exploit the carriage capability of the bombers, improving weapon integration (i.e., standard aircraft/weapon interface), improving selected sensors for weapon employment, and perhaps improving defensive countermeasures.
- Improving the capability of the bombers to operate as parts of force packages, and to allow them to effectively engage targets with the help of offboard C4I assets. These modifications consist largely of communications upgrades that allow at least medium data-rate connectivity to theater and national intelligence sources, as well as command and control assets.
- Increasing the autonomy of the heavy bomber force so it can be better employed in leading-edge operations when other support assets (e.g., fighters, AWACS) are not readily available. The primary focus is on specific modifications to the B-2 that would allow it to better support the activities of other bombers in missions such as halting invading armies and selective suppression of enemy air defenses (SEAD), and to exploit its own onboard sensors. The addition of a third crew member as a tactical officer and adjunct information processing systems seems to be required for this class of operations.
- Increasing sensor performance and onboard processing to allow for the bombers to better perform missions. This includes adding the ability to search larger areas through sensor enhancements, and more exotic counter-countermeasures.

Some of the modifications highlighted above, notably many of those associated with integrating high-quality weapons onto the bombers, are currently being pursued by the Air Force. However, there are a large number of items not currently being pursued in the current modernization program. Much of the current bomber modernization plan implicitly focuses on employing the bombers in structured pre-planned operations against fixed installations, and does not address some of the areas that we have determined to be potentially critical to

Table 2—Bombers Need Modifications to Maximize Their Effectiveness Across a Spectrum of Conventional Missions

B-52	B-1B	B-2
Weapon carriage modifications/integration/ OAS modifications/data bus modifications†	**Weapon carriage modifications/integration/ OAS modifications/data bus modifications†**	**Weapon carriage modifications/integration/ OAS modifications/data bus modifications†**
Communications upgrades (esp. data links and Medium data rate satellite communication)*	Communications upgrades (esp. data links and Medium data rate satellite communication)*	Communications upgrades (esp. data links and Medium data rate satellite communication)*
Limited information processing upgrades for stand-off weapon target changes*	Sensor upgrades*	Sensor upgrades*
	Limited information processing upgrades to support situational awareness updates and weapon targeting*	Moderate information processing upgrades and addition of tactical officer for advanced employment concepts*

†High-volume carriage option not currently programmed (e.g., JDAM–500lb)

Unfunded

the employment of heavy bombers in a dynamic and flexible manner. For instance, *the current plan does not make significant improvements in the ability of the bombers to find and attack targets on demand or to exploit the intrinsic capabilities of bombers such as the B-1B and B-2 to use their sensors and air crew to adapt to tactical needs.*

Computer system upgrades are needed to extend the current architecture of the bomber's computers, which is designed to support control of avionics devices and sensors, to allow more inflight manipulation of data and control of information flow. That is essential for executing flexible operations in a highly dynamic environment. Information can be both the sword and shield of the bomber force, allowing bombers to choose the time and place of engagement most favorable to the attacking force and to react to enemy actions. In this approach to information systems, the air crew and their computers form the heart of the force. The humans act as decision-makers, and the computer systems as facilitators by converting the myriad of data into information digestible by the air crew. The longer timelines associated with bomber operations, plus the concentration of the computer systems on planning operations that will not occur for tens of minutes, provides an opportunity for bomber crews to get more involved with modifying their mission plans enroute if the computer architecture is designed properly. One possible approach includes building a dedicated information processing system that would exist in parallel with the existing computer and bus system, and would use the existing system to interact with avionics devices whenever possible.

Communications and sensor improvements fit hand-in-glove with the computer system upgrades. Whereas the computer helps extend the crew's ability to process data, the communications and sensory improvements extend the sphere from which they can gather information. Communications improvements allow for the sharing of data between bombers, and between the bombers and other off-board systems. This adds significant capability to the bombers without proliferation of expensive sensory apparatus. The sensory improvements extend only to those areas where the basic capabilities are already present on the bomber and the improvements are vital to successful completion of the mission.

The current plan for weapons carriage improvements consists of adding the ability to carry a variety of new weapons (e.g. JDAM, JSOW, and TSSAM) to bombers. However, *the current plan does not address the ability to carry a larger number of smaller munitions to effectively exploit the payload capacity of the bomber or increasing commonality in weapon carriage hardware and software* to simplify deployment and decrease system integration costs.

An Approach to Structuring the Bomber Force

Even before the end of the Cold War, RAND analysis concluded that large-scale conventional (rather than possible nuclear) use should be the dominant factor in structuring the long-range bomber force. The START II agreement drastically reducing nuclear arms has reinforced that assessment. On the nuclear side, the only real bomber force structure issues remaining are how many nuclear cruise missile carriers the United States will retain and whether they ought to be retained exclusively for nuclear use or "dual DOCed" for both conventional and nuclear use. About 40–50 B-52s could carry the entire inventory of Advanced Cruise Missiles (ACMs) plus a few hundred older ALCM-Bs. A larger nuclear B-52 force could be maintained if more of the existing ALCM-Bs were retained for nuclear use.[2] However, in general, 40–50 nuclear cruise missile carriers is a reasonable force to maintain for nuclear use. The remaining nuclear force structure question is whether these should be considered part of the conventional force or an addition to it. This decision rests on a value judgment about how much risk the United States should take in putting part of the force that it United States relies on to deter nuclear war in harm's way in a conventional campaign.

Structuring the conventional bomber force is the critical planning issue. We focused on identifying situations where bombers could make a difference, recognizing that there are many military situations where they might not. For planning purposes, we also tried to emphasize cases that stressed the bomber force so we would have some confidence that a force designed for those cases would be adequate for any reasonable contingency that might arise.

After examining a wide range of possible conflicts in various parts of the world, we identified four generic classes of situations that dominated bomber force structure considerations, as Figure 6 shows.

- *Limited Raids*. Raids of the Libya variety require only a small number of bombers if the bombers are suitably armed. For most scenarios, bombers with long-range cruise missiles would be adequate, even preferable. For operations demanding more flexibility, stealthy B-2s might be the bombers of choice. In either case, quality rather than force size is the driving factor because of the risk to the aircraft and the need for effective weapons and targeting systems.

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[2] There is an issue regarding the future of the 1000 or so remaining ALCM-Bs. They could either be retained for nuclear use or converted into conventional cruise missiles (ALCM-Cs), so there could be some competition for those missiles.

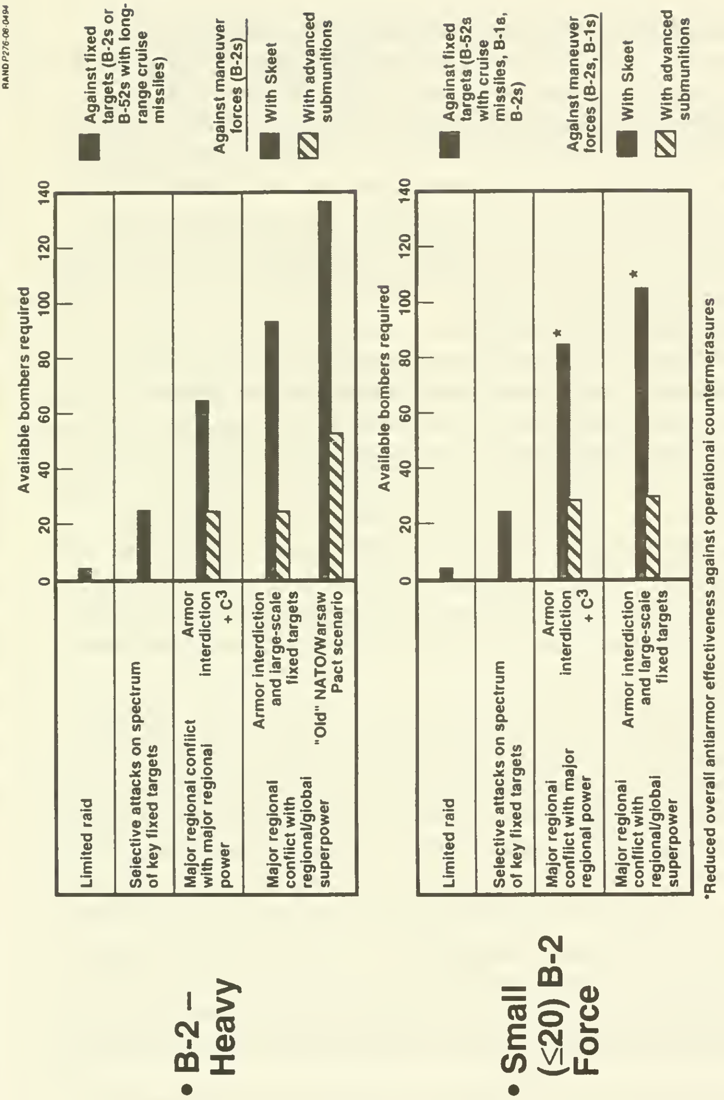

Figure 6—Long-Range Bomber Forces for a Spectrum of Conventional Conflicts

- *Selective Attacks on a Spectrum of Key Fixed Targets and Assorted Other Missions.* Analyzing those relatively unusual situations where attacking a modest number of fixed targets could be militarily decisive early in a campaign, we concluded that about one wing of cruise missile carriers or B-2s was probably an adequate force. If this is the only way that bombers were to be employed, such a force might be sufficient. Similarly, it would probably be adequate for some of the other tasks that bombers could perform such as ocean surveillance and naval mining. Interestingly, the specific cases that led to this generic class of scenario were more typical of the "old world" than the "new."
- *Major Regional Conflict with a Major Regional Power.* This is a class of conflict that typically places serious demands on most elements of U.S. military forces. The most stressing situations are those in which an enemy controls the operational tempo—by launching an invasion, for example—and the United States and its allies are obliged to respond. As the Bottom Up Review correctly pointed out, countering such an invasion should have the highest priority in a major conflict. A large-scale armored assault might be part of such an invasion. If so, that is likely to be the driving factor in determining bomber requirements and should certainly be the dominant factor in planning for this generic level of conflict as Figure 6 shows.
- *Major Regional Conflict with a Regional/Global Superpower.* The difference between this level of conflict and the previous one is the quality of the opposition. As a practical planning matter, that is likely to mean being prepared to deal simultaneously with an armored invasion and launch a major sustained attack against critical fixed tactical targets at the outset of a campaign. Thus, as Figure 6 indicates, the main impact on the bomber force is an increase in the number of fixed targets that it has to deal with early in the campaign. A regional power that could mount both a major armored offensive and a significant tactical air campaign simultaneously would fall into this category and is a useful planning surrogate since sustained attacks against airfields can absorb large numbers of weapons.

For planning purposes, we constructed a notional generic adversary based on a composite of several representative regional powers to use as a surrogate for evaluating major conflicts. The critical target sets fell into three categories:

- Armored forces roughly comparable to those Iraq could have used against Saudi Arabia after it captured Kuwait, as well as mobile air defenses.

- Fixed tactical targets (e.g., airfields, EW/GCI radar sites, military headquarters, and C^3 sites, lines of communications): ≈150 ± 100 major installations (15% time critical)
- Fixed "strategic" targets[3] (e.g., leadership, military production facilities, electric power, industrial infrastructure): ≈200 ± 80 major installations (5% time-critical)

Figure 6 compares the total force requirements for two different bomber forces to deal with this spectrum of conflicts. The force in the upper part of the figure has a larger number of B-2s in order to take advantage of their greater potential capability against large-scale maneuver forces in a hostile environment in the early days of a major campaign.[4] Note that a force of about 60 B-2s and 40 cruise missile carriers (B-52s in the figure) *if properly equipped* could handle the bomber portion of a major campaign against even a very powerful regional aggressor. A smaller force of B-2s (i.e., 20–25) would need a more advanced antiarmor submunition than Skeet to achieve comparable effectiveness.

The lower part of Figure 6 shows that a bomber force that included only the programmed B-2 force (e.g., < 20 B-2s) *if properly equipped* might be able to handle the same sorts of conflicts under relatively favorable conditions *if* the sort of cooperative operational concepts described earlier could be employed to make the older bombers more effective. Even then, however, that force would be much less effective in the face of simple operational countermeasures by the enemy (e.g., spreading vehicle formations). Moreover, the programmed force would have much less flexibility than the B-2-heavy force to deal with a second major contingency if one should arise at roughly the same time. We will consider that possibility next.

Potential for Handling a Second Major Regional Conflict

The Defense Guidance and the Bottom Up Review have called for U.S. military forces to be able to deal with two major regional conflicts that occur nearly simultaneously. In principle, the bomber force, because of its capability for rapid global response, could play a particularly useful role by helping hold the line in each conflict until the rest of U.S. forces could arrive. If the conflicts did not occur at literally the same time, the bombers could shift relatively quickly to the second conflict as the first stabilized.

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[3] By "strategic" targets, we generally mean those that are of long-term value to a society but have little immediate impact on a fast-moving military campaign. There are some exceptions, such as national leadership, that have strategic and tactical value.

[4] Because they can get closer to their targets, properly modified B-2s can carry much larger payloads of antiarmor submunitions than B-1s. Also, B-2s could function effectively without B-1s, but the converse is not true.

The practical capability of long-range bombers to do that depends on the structure and quality of the bomber force as well as the nature and timing of the conflicts. Figure 7 shows how two different bomber forces might be employed in a very demanding regional conflict and what the implications are for using bombers to support a second major regional conflict.

The *notional "first" major conflict* shown includes several elements that make serious demands on the bomber force:

- A large-scale armored invasion against an opponent with weak defenses and little or no U.S. support in the theater.
- An enemy air force that is capable enough to warrant a heavy initial, sustained attack against airfields.
- A relatively large number of other time-critical fixed tactical and "strategic" targets by the standards of these kinds of conflicts.

As the figure shows, the bombers have to carry the load for about the first week of the conflict. After that, the fighter force in the theater should have grown enough in size and capability to take over much of the load, freeing a portion of the bomber force for other duty.

The two bomber forces shown are roughly the same size (≈ 100–120 aircraft) but differ considerably in composition and capability. The force shown in the top part of the figure is specifically designed for this sort of conflict. It consists of roughly 60 B-2s and 40 B-52 long-range cruise missile carriers. The large B-2 force is largely dedicated to halting the armored invasion. It is large enough to cope with a sizable enemy armored force even if that force takes some operational countermeasures to reduce the effectiveness of the Skeet submunitions.

The second force is roughly equivalent in size and composition to the programmed force at about the turn of the century, although it has more capability because of additional modifications. It consists of less than 20 B-2s, 60 B-1s, and about 40 B-52s. As noted earlier, this force might be adequate for the job under reasonably favorable conditions (e.g., no enemy countermeasures), but it is not as robust or as capable as the force with the larger B-2 component. It is merely the best that can be done with a force that includes only a small number of B-2s. *A force of about 38 B-2s and 40 B-52s would be about as effective as this force.* Both forces use new operational concepts as discussed earlier, but the mixed

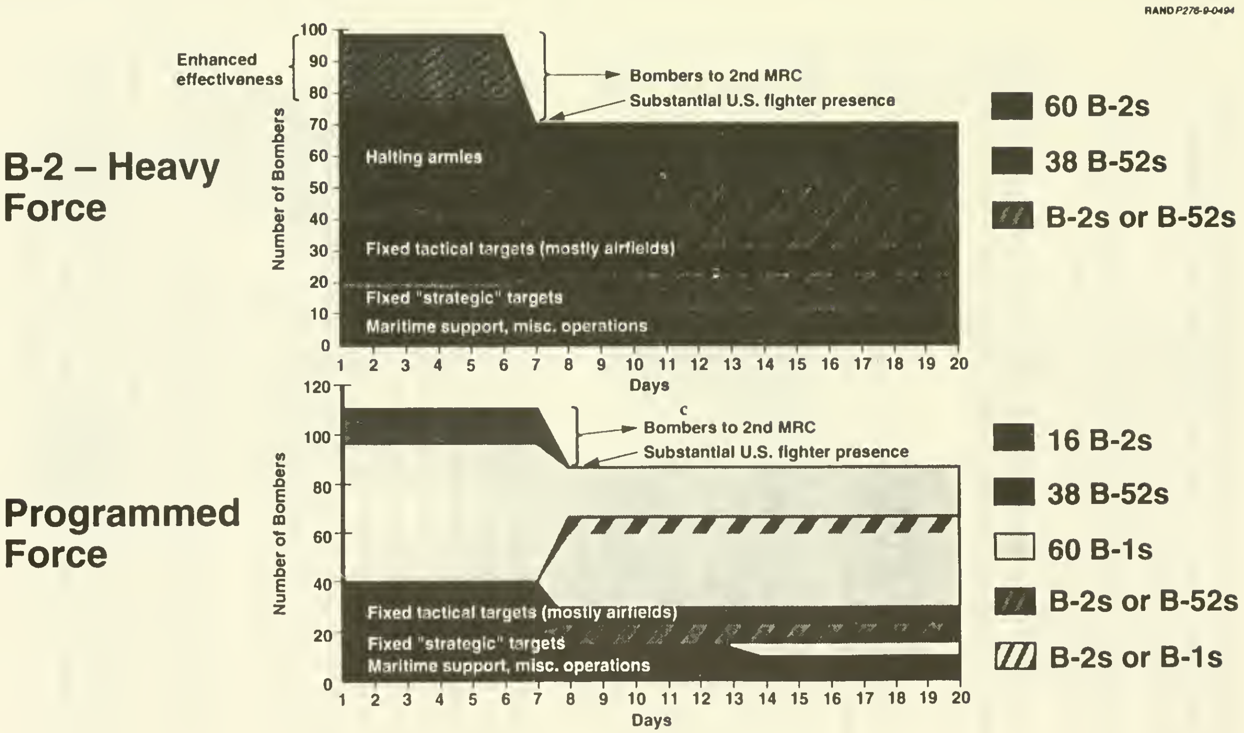


Figure 7—Prospects for Diverting Bombers to a Second Major Regional Conflict (MRC)

force of B-2s, B-1s, and B-52s involves more demanding tactics. Both forces include a small reserve force for miscellaneous missions such as maritime operations or limited raids.

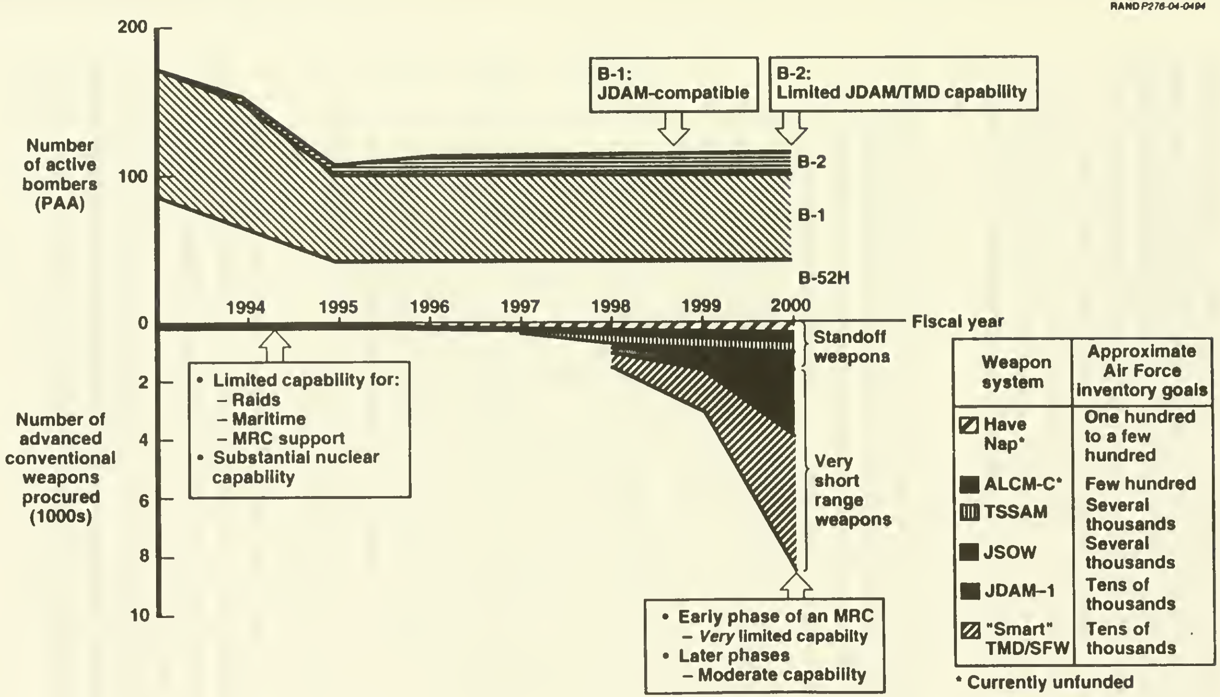
If two conflicts of this magnitude were to break out at the same time, a much larger bomber force would be required to deal with them. Fortunately,

- Even a single major regional conflict might not include all of the elements that stress the bomber force (i.e., large antiarmor attack, sustained airfield attack).
- It is *extremely* unlikely that two such conflicts that the United States would care enough about to become militarily involved in could occur at about the same time in the world as it appears to be evolving.
- Even a few days' spacing between the intense parts of two major conflicts could allow the United States to divert up to 30 B-2s or B-52s in the case of the larger B-2 force or about 10 B-2s and 10 B-1s (or perhaps more B-2s and a few B-52s) from the programmed force to a second conflict. In either case, some additional B-52 cruise missile carriers could be shifted more quickly to attack time-critical fixed targets in a second theater, particularly in the absence of an overwhelming need for a heavy airfield attack in a single theater.

Thus, the sort of bomber forces considered in this example would have some capability to deal with two major regional conflicts if they were at least a few days apart and if both did not contain all of the elements that would stress the bomber force. *A force that contains a larger number of B-2s is potentially more effective for dealing with multiple contingencies* because it is more capable and flexible and requires less demanding operational employment concepts. The more mixed bomber force depends on a high level of integration to make its operations fully effective, making it more difficult to draw off portions of that force to move to other theaters.

The Limitations of the Programmed Bomber Force

Figure 8 shows the current plan for the bomber force and the weapons necessary to make it effective in conventional operations. The most striking message of this figure is the amount of time required to introduce the planned new weapons into the inventory. The improved weapons do not begin entering the force in



Weapon system	Approximate Air Force inventory goals
▨ Have Nap*	One hundred to a few hundred
■ ALCM-C*	Few hundred
▥ TSSAM	Several thousands
■ JSOW	Several thousands
■ JDAM–1	Tens of thousands
▨ "Smart" TMD/SFW	Tens of thousands

* Currently unfunded

Figure 8—The Planned Bomber Force Will Have *Very Little Capability in This Century*

significant numbers until around the turn of the century.[5] *Until then, the bomber force will have very limited conventional capability regardless of how large it is.* Even after the weapons begin to enter the force, the stockpile will only be large enough to provide the bomber force with a very limited capability during the critical early phases of a major campaign. *The development times for even modest improvements* (e.g., adding inertial or inertial/GPS guidance kits to existing weapons) *are simply too long.* Moreover, most of these weapons need to be procured in very large numbers, particularly since all elements of the U.S. forces need them.

The state of the bombers themselves makes the problem worse still. According to the current schedule, the modifications necessary to make the bombers—particularly the B-2 since it is only now entering the force—fully effective for conventional operations will take years to complete. Moreover, some modifications that our analysis has already identified as important are not currently part of the plan, and it is likely that other modifications will prove necessary as well. *Being able to modify bombers relatively quickly and inexpensively is critical to maintaining an effective bomber force in the dynamic world environment.*

Finally, from an operational perspective, there is a significant mismatch between bombers and weapons that extends into at least the early part of the next century in the current plan. The first new weapons to come into force in quantity are very short-range weapons—2000 lb JDAM-1s and WCMDs. While these weapons would be suitable for any of the bombers to use after the United States established air supremacy in a major conflict, only the B-2 could use them safely during the early phases of a conflict. That substantially limits the amount of firepower that bombers can bring to bear early in a major war, particularly since only JDAM-1 would be available in this century for attacking fixed targets. Moreover, the B-2s themselves are not likely to be optimally configured by the year 2000 to use these weapons to best advantage.

Standoff weapons are going to be in short supply in the programmed force, particularly in this century. The small number of TSSAMs that could be available would probably be of most use as defense suppression weapons for the B-2. JSOW is an appropriate weapon for the B-1 if it can be used effectively along with the B-2 in early interdiction roles. It will not be of much use to the other bombers, however. Also, when both the B-1 and the B-2 are modified to permit cooperative targeting, even the B-1/JSOW combination may be of limited utility.

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[5] Actually, the picture is even slightly worse than it appears because the weapons numbers shown are based on the total *procured* each year. Actual *delivery* of the weapons typically lags procurement authorization by about a year.

Moreover, unless the ALCM-C is funded, there will be no long-range conventional cruise missiles for either the B-52 or the B-1 to use for deep strikes against critical fixed targets in the early stages of a war or on limited raids. Even if the planned ALCM-C conversions were funded, only a few hundred missiles would be available for B-52s to carry, which is only enough for use in isolated situations.

Thus, the problem of matching bombers and weapons can be summed up as follows:

- The planned weapon buys are most appropriate for a force dominated by B-2s, but the planned B-2 force is very small. Moreover, using the B-2 force effectively requires modifications to the bombers that either are not in current plans or come along very late in the program.
- The absence of suitable standoff weapons for the B-1 and B-52 seriously limits the effectiveness of the bulk of the bomber force. Equipping the B-1 with JSOW is only a partial solution.

Moreover, even in the long term, significant gaps in the Air Force's current weapons procurement plan could limit the potential effectiveness of the bomber force:

- Not enough emphasis on upgrading small (e.g., 500 lb) bombs
- Lack of long-range cruise missiles will limit the ability of nonstealthy bombers to attack defended areas in the early phases of a conflict
  - TSSAM range inadequate for broad classes of missions
  - ALCM-C numbers inadequate even if funded
- Smart fuzes needed for attacking hardened bunkers are currently unfunded
- Better submunitions that are not currently programmed would substantially improve the effectiveness of a small bomber force
  - A better antiarmor submunition than Skeet (e.g., BAT)

As noted earlier, heavy bombers would be much more effective against many types of target sets if they had the option of carrying large numbers of small, moderately accurate weapons. Adding this capability should be easy, quick, and relatively cheap, but is not emphasized in the current program.

The lack of a suitable long-range cruise missile has long-term as well as short-term implications for the bomber force. The vulnerabilities of the B-1 and B-52 will increase, not decrease, over the years as even Third World air defenses continue to improve.

Some specific classes of missions can require specialized weapons or improvements to particular weapon components. For example, attacking hardened bunkers received considerable attention during the Gulf War. Attacking very hard targets stresses weapons technology in several areas. One of them is fuze technology. Equipping weapons with "smart" fuzes that would sense when the weapon had passed through the walls of a bunker and cause the weapon to detonate only when it had entered the bunker itself would make attacking bunkers much more effective. However, smart fuzes are not currently funded, although they could be used by various types of weapons, not just bomber weapons.

Better submunitions of various sorts could make a small bomber force much more effective. For example, Figure 6 showed that having a more effective antiarmor submunition than Skeet could reduce the number of bombers required to stop an armored invasion by a factor of 2 or 3. That added capability could be critical for making a small force of B-2s or a combined force of B-2s and B-1s fully effective. However, the Air Force does not currently plan to procure an advanced antiarmor submunition. The BAT (Brilliant Antitank) submunition currently being developed by the Army might be adequate. If not, there are other technical options that the Air Force could pursue.

Thus, in spite of the considerable progress that the Air Force has made in recent years in improving its conventional weapons programs, *more progress is needed* if it is going to use its declining force of aircraft, particularly its long-range bombers, as effectively as possible. As a result, the *bomber force, as currently planned, will have great difficulty providing the unique capabilities that long-range bombers potentially offer.* At best, achieving those capabilities will require many years.

Other Problems

Other problems remain as well. Some are relatively straightforward to solve given the will and resources:

- *Providing adequate crew ratios.* The Air Force currently plans on maintaining crew ratio of about 1.1 for its bomber force. That would have been sufficient during the Cold War when bombers were intended primarily as strategic platforms dedicated to one massive nuclear attack mission. However, sustained conventional operations require more crews for each bomber. Our analysis shows that a crew ratio of about 3.0 would be necessary for the kinds of stressing missions and sortie rates that we have described here.

- *Providing sufficient repair and maintenance capability for sustained bomber operations.* Similarly, the maintenance and repair capabilities for bombers in general and the B-1 in particular were not designed for sustained operations. Using the bombers in protracted conventional campaigns will require a different approach. The Air Force leadership recognizes this problem, but whether the actual plans to correct it prove to be adequate remains to be seen.
- *Providing adequate training/flight time.* A small bomber force and fiscal austerity tend to reduce flight hours. Although the use of simulators helps, a certain amount of flying time is necessary for the crews to maintain full proficiency in the relatively demanding operations that conventional campaigns require. That is going to be a particular problem for the small B-2 force.

Solving these problems is a prerequisite to maintaining an effective bomber force of any kind in the future. However, there is a more fundamental set of issues that gets into relatively unexplored territory and will require additional research to address.

- *Developing integrated operational concepts.* The most fundamental need is to develop a set of truly *integrated* fighting concepts to take maximum advantage of shrinking U.S. military forces. There are two dimensions to the problem. The first is operational. Forces from different services and different parts of the same service need to be able to actually *fight together,* not just stay out of each other's way while operating in the same theater (i.e., joint operations). Better combat integration could open up all sorts of possibilities for innovative operational concepts that might increase the overall combat effectiveness of U.S. forces while identifying redundant capabilities that could be eliminated. That, in turn, would provide a basis for addressing the second dimension: force structure analysis and program planning.

  As forces shrink and distinctions among service roles and missions blur, making legitimate cost-effectiveness comparisons among disparate forces becomes more and more difficult. In particular, practical force comparisons will frequently involve neither equal cost nor equal effectiveness. For example, in our past work, we have made some relatively straightforward comparisons between different bombers and carrier-based aircraft or land-based tactical fighters. These were useful for making judgments on some narrowly defined force effectiveness comparison issues. Even there, however, the comparisons have to be interpreted with care. For example, B-2s are very different from B-1s. They are capable of doing very different things, so comparisons can be tricky. By contrast, B-1s are very much like large fighter-bombers and can be compared fairly with other traditionally tactical fighter-bombers. The results can turn on how the questions are posed, but the analysis is still relatively straightforward.

That is not true for larger force structure comparisons involving disparate types of forces, say, long-range bombers, aircraft carriers, and some kinds of ground forces. Because their missions only partially overlap, cost-effectiveness comparisons have to be made more indirectly by evaluating various combinations of forces that could satisfy similar sets of overall national military objectives. *That is the kind of analysis that will increasingly be required to address national-level questions of overall force structure and military roles and missions.*

- *Modifying the acquisition process.* Next, the United States needs to revamp its military acquisition process to simplify the modification of existing or planned weapon systems. Since the United States will buy fewer major weapon systems in the future, it must get the most mileage out of the ones it already has as well as the few new ones that it plans to build. That means relying more on frequently modifying weapon systems. Making that process easier technically and institutionally is a major challenge.
- *Maintaining an adequate industrial base.* Finally, if the United States plans to stay in the bomber business over the long term, it needs to be somewhat concerned about maintaining the technical and manufacturing capability necessary to design and build bombers. Determining how best to do that and deciding whether the effort is worth the cost is a major analytical challenge.

Conclusions

After adequate weapons become available and suitable modifications are made to the bombers, the currently programmed force of about 100–200 bombers (60 B-1s, 40 B-52s, ≈ 20 B-2s) should be able to handle a stressing major regional conflict, assuming new operational concepts can be implemented successfully. However, such a force would have:

- No reserve force for nuclear use (≈ 40–50 additional B-52s would be needed)
- Very little margin for attrition
- No margin for tradeoffs of long-range bombers against other types of forces (e.g., B-1s against tactical fighter-bombers)
- No extra firepower to compensate for unexpected situations such as operational countermeasures by enemy maneuver forces
- Only a limited capability to support a second major regional conflict.

A slightly smaller force that included more B-2s would offer greater capability if the nation were willing to invest the additional resources.

- A force of about 60 suitably equipped B-2s and 40 B-52s would have considerably more capability to support a stressing major conflict as well as a moderately demanding, near-simultaneous second major conflict.
- A force of about 40 properly armed and configured B-2s and 40 B-52s would be roughly comparable in effectiveness to an improved version of the programmed force, *but*
  - would be easier to employ operationally
  - would have more flexibility for handling a second contingency, although its firepower would still be somewhat limited

However, the details of the force structure are not the most fundamental issues that the United States has to address in developing an effective bomber force. The bomber force will be relatively ineffective until at least the year 2000 *no matter how large it is.* Better weapons and suitable modifications to the bombers are critical to making the bomber force fully effective. The programmed new weapons and improvements to the bomber force should start to have some impact around the turn of the century *but additional new weapons and modifications to the bomber are needed* if the relatively modest future bomber force is to be fully effective in important conventional roles.

Mr. BUCHAN. We are here to discuss RAND's assessment of what is necessary to provide the United States with an effective bomber force for the future. We would like to begin by showing you a videotape to pick up on exactly the point you made earlier about the possibility of using B–2s to counter armored invasions, and to do that I would like to introduce my colleague Dave Frelinger to play the videotape and describe it for you.

Mr. DICKS. Before we get started I would like to recognize Congressman Earl Pomeroy, from the State of North Dakota, who is going to put a statement in the record. He has been a leader on the B–52 issue. He has been very concerned about this issue. In fact, I am going to visit his district tomorrow to see the base in Minot. We will put his statement in the record.

[The statement of the Honorable Earl Pomeroy, a Member of Congress from the State of North Dakota, follows:]

Testimony of
Congressman Earl Pomeroy
before the
Appropriations Subcommittee on Defense
April 20, 1994

Mr. Chairman, I appreciate this opportunity to testify before the Subcommittee on the issue of our nation's long-range bomber force. I am concerned that the Administration's defense budget fails to fund the necessary number of bombers to meet our stated military requirements. The budget for bombers leaves our nation with a significantly weakened ability to quickly and effectively respond to global contingencies while generating a relatively small level of savings. My greatest concern is that the budget cuts in half the number of the most capable bomber we have today.

In September 1993, the Bottom-Up Review (BUR) of U.S. defense requirements called for a force structure of "up to" 184 bombers. The BUR concluded that the nation needs 100 "deployable" Air Force heavy bombers for a single major regional conflict (MRC). While the B-2 could be assigned to both MRCs, the BUR states that the building block for a single MRC would have to be duplicated in order to fight the 2nd MRC. The BUR did not address the bomber's nuclear mission--a subject that is currently being considered by the Nuclear Posture Review task force.

Despite the 2 MRC and nuclear mission requirements, the FY95 budget provides funding for only 126 heavy bombers of which 107 are "deployable" (Primary Authorized Aircraft). While the Pentagon has created an "Attrition Reserve" (AR) category that may bring the total bomber inventory to 182, the AR planes are not funded for aircrews or flying hours and are intended only to replace combat and peacetime losses. Therefore, the FY95 budget presents a gap of 56 long-range bombers including 30 B-52s and 26 B-1s (see attached graph).

The shortfall in the bomber budget is made worse by the dramatic cut in what is today our most capable bomber--the B-52H--from 95 to less than 50. The B-52 is our only long-range bomber that currently provides both a proven conventional capability as well as a credible nuclear deterrent. It is militarily and economically crucial to maintain our proven capabilities at least until the next generation of long-range bombers is fully certified.

Operation Desert Storm was an important reminder of the vital role of conventionally-armed heavy bombers. During Desert Storm the B-52 flew just over 3 percent of the total combat sorties but dropped 30 percent of munitions tonnage released. In fact, the B-52 can deliver eight types of general-purpose gravity bombs and twelve types of special-purpose bombs, including two kinds of laser-guided bombs. A single B-52 can carry up to 51 conventional gravity munitions weighing up to 50,000 pounds. Furthermore, the B-52H is the only Air Force bomber with a credible maritime role. In addition to delivering 12 different types of sea mines, the B-52H will be modified to employ Harpoon anti-ship missiles as the B-52G models leave active service.

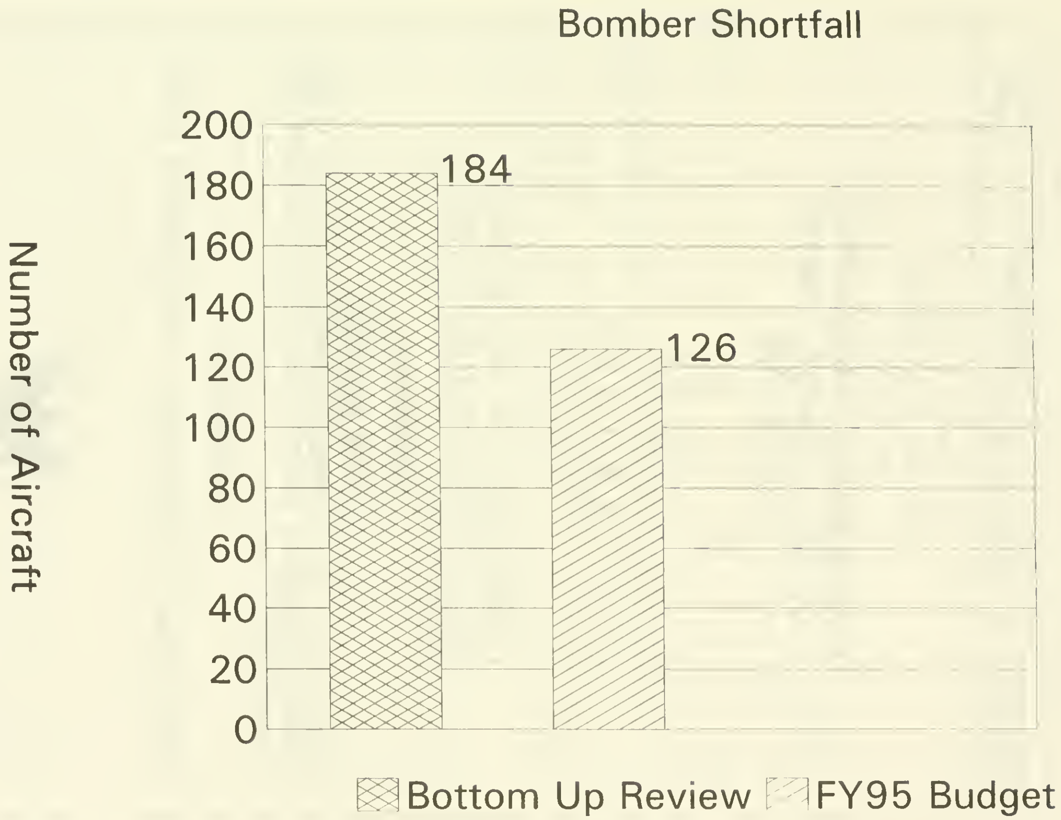
In the Persian Gulf War, we had six months to move our forces into the theater of operations--a luxury we cannot assume in the next crisis. In such an unexpected crisis, the B-52H, with an unrefueled range of more than 10,000 miles, becomes even more critical to a successful operation. The range of the B-52 allows us to respond quickly and project combat power worldwide from bases within the United States. With aerial refueling, the combat range of the B-52 is virtually unlimited.

The B-52 bomber not only provides a tremendous warfighting capability but is also a linchpin in deterring regional aggressors. To illustrate its critical importance, General Howell Estes, Commander of the U.S. Pacific Air Force, recently said that 72 B-52s are required to support the North Korean deterrent alone. It is also important to remember that, as we withdraw from overseas bases, our dependence on long-range bombers to both deter and respond to threats around the globe will continue to increase.

Congressional concern over the adequacy of the U.S. long-range bomber force is continuing to grow. Upon my recommendation, the House Budget Committee expressed strong opposition to the cut in B-52s. In fact, both the House and the Senate Budget Resolution Committee Reports state that the FY95 budget for long-range bombers "does not meet essential defense requirements". Furthermore, the House-passed Budget Resolution assumes that at least 74 B-52H aircraft will be retained.

Clearly, budget constraints placed on this committee require difficult choices. However, I believe that to cut the B-52 force so radically for a relatively small level of savings--$140 million--is not a risk our nation can afford. Mr. Chairman, I strongly urge the Subcommittee to appropriate funds for at least 74 B-52H aircraft to meet our national defense requirements.

Again, Mr. Chairman, I commend you for holding this important hearing and thank you for the opportunity to testify before the Subcommittee.


Bomber Shortfall
Number of Aircraft
200
180
160
140
120
100
80
60
40
20
0
184
126
Bottom Up Review
FY95 Budget

103d Congress
2d Session

HOUSE OF REPRESENTATIVES

Report
103–428

CONCURRENT RESOLUTION ON THE BUDGET—FISCAL YEAR 1995

REPORT

OF THE

COMMITTEE ON THE BUDGET HOUSE OF REPRESENTATIVES

TO ACCOMPANY

H. Con. Res. 218

SETTING FORTH THE CONGRESSIONAL BUDGET FOR THE UNITED STATES GOVERNMENT FOR THE FISCAL YEARS 1995, 1996, 1997, 1998, AND 1999

TOGETHER WITH

ADDITIONAL, SUPPLEMENTAL, AND MINORITY VIEWS

March 8, 1994.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE
77–064 WASHINGTON : 1994

III. THE BUDGET PLAN IN DETAIL

A. Explanation of Committee Recommendation by Function

COMMITTEE RECOMMENDATION
FUNCTION 050: NATIONAL DEFENSE

[In millions of dollars]

	Fiscal year 1994		Fiscal year 1995			
			President reestimated		Committee recommendation	
	Budget authority	Outlays	Budget authority	Outlays	Budget Authority	Outlays
Discretionary	261,456	279,727	263,948	271,124	263,792	270,899
Mandatory	−830	−757	−499	−362	−499	−362
Total	260,626	278,970	263,449	270,762	263,293	270,537

Note: President Reestimated and the Committee Recommendation include GSA rent and procurement reform savings that the President shows in Function 920.

The Committee recommendation represents the dollar level of the President's 1995 defense request (excluding proposed supplementals and rescissions) adjusted to reflect defense's share of the Administration's proposed procurement reform and GSA rent reductions.

The committee continues to be concerned that the United States bears a disproportionate share of the financial burden for the defense of our allies. This is not acceptable in a period of reduced United States defense budgets when many of our allies are capable of assuming a larger share of the costs. In particular, the committee believes that the United States should not continue to bear an inequitable burden for overseas-based costs such as indirect hires of foreign nationals, utilities, maintenance, etc. The committee recognizes a five-year agreement signed by Japan in 1991, promising its contribution will be 75 percent of the total cost of U.S. deployment, excluding salaries of U.S. armed forces and civilian personnel. However, we should encourage Japan to go beyond that amount and negotiate similar agreements with other allied nations hosting major concentrations of U.S. forces—Italy, Germany, the United Kingdom, and South Korea—so that each will assume a significant amount of U.S. stationing costs.

The committee is concerned that the Administration's defense budget does not provide an adequate long-range bomber force to meet essential defense requirements. Specifically, the committee assumes that the Administration's plan to reduce the B–52H bomber force to 47 aircraft will not be enacted. The committee recommendation assumes that at least 74 B–52H bombers will be retained.

Mr. DICKS. Mr. Frelinger.

B–2 INTERDICTION CAPABILITIES

Mr. FRELINGER. In this video, you see two vignettes highlighting use of heavy bombers against maneuvering forces. In both cases the attacking bombers consist of three B–2s. The first will show an enemy armored division marching along a Saudi Arabia road network.

The second shows bombers attacking dispersed enemy forces configured in an attack posture. The second represents a greater challenge to the attacking bombers. That provides the framework for these and it is explained pretty well by the video itself.

Mr. DICKS. If you will, let's begin the presentation.

[Videotape presentation:]

The challenge for U.S. forces is to rapidly project power anywhere in the world when needed to support U.S. national security interests. This brief videotape highlights the B–2's power projection capabilities in focusing on enemy armor forces in the early critical days of conflict. This rapid response provides a hedge against failure to act on strategy warning. The stealthy B–2s used are armed with inertially terminal-guided dispenser armed with anti-armor submunitions.

The stealth characteristics will allow it to attack with minimal if any support from electronic jamming assets or other aircraft that conduct lethal suppression of enemy air defenses. The target in our first case is representative of what might have occurred if Saddam Hussein's forces had continued advancing into Saudi Arabia. The target consists of an armored division, arrayed in four columns moving forward in road march. The vehicles are closely spaced to maximize unit cohesion and permit rapid assembly into attack formation.

The B–2's long-range survivability allows it to launch from secure bases located in the United States or other places on the globe to attack within hours.

This picture is a JSTARS unit from the recent war in the Gulf. Notice how the large concentration of vehicles stand out. The B–2's crew would use the on-board radar to gain a view of the battle area similar to that provided by JSTARS.

The model is a highly detailed land combat model used by the U.S. Army. The targets' array is seen in icons representing individual vehicles. The blue dots show the axis of attack used by the three B–2s in our simulation. The close-up shows the spacing of vehicles. Notice the bunching of vehicles in smaller units as they move down the road.

Over the next few minutes you will see a simulation of the attack by three B–2s flying at high altitude. Each aircraft can carry 32 munitions dispensers which is guided by a small inertial navigational unit.

In our concept of operation, the bomber crew would take a quick look to locate the B–2 low intercept radar to find targets. The crew would designate where they want the munitions to fly. This information in the form of inertial coordinates would be passed digitally to the guidance unit on the munitions dispensers. At the appropriate time several miles from the column, the B–2's bomb bay doors would open to release the munition dispensers which would glide to various selected points.

When the dispensers reach their designated target locations, it would release current generation anti-armor submunitions known as Skeet. The small white squares appearing over the column of vehicles represent the coverage area of each dispenser submunition roughly 200 by 400 meters. All of these submunitions would impact over the column in under two minutes. The gradual lay down in the video results from extensive computer processing needed to conduct this simulation.

Each dispenser carries 40 Skeet submunitions with dual channel infrared sensor capable of detecting enemy vehicles.

After the Skeet acquires a target, a small explosive charge detonates to form a high speed molten slug of metal that can destroy the target. The three B–2s could deliver almost 4,000 anti-armor submunitions to attack the various columns. We have used conservative estimates of dispenser accuracy in live fights, and with other factors, on average the three B–2s destroyed over 350 armored vehicles in these simulated attacks. Each vehicle was hit on average four times.

Mr. DICKS [during the video]. That is 350 vehicles of the 750, right?

Mr. FRELINGER. Yes.

Mr. DONOHUE. Right. Our estimate is typically that number would stop a division and they would have to regroup. That is about a 50 percent mobility kill. It would halt forward movement.

[Videotape continues:]

The unit is no longer capable of engaging in combat. The resulting devastation to the enemy columns is a product of mass, precision lethality.

This close-up shows the small number of vehicles remaining after the attack. This overview shows the total number of vehicles destroyed in the attack.

In the next set of analyses, we took advantage of a past RAND study examining joint close support force options using the model. The scenario in this case is a Soviet division in the attack across the North German plains. It would also function as surrogate for armored divisions in attack in other areas of the world. This division, the individual vehicles represented by red icons is so shown here.

The first echelon is moving into the attack. The second echelon is moving in behind to exploit potential breakthroughs. This presents a more difficult target because the formation is more dispersed than the Iraqi column in road march. With B–2s attacking from high altitude, we were very concerned about the potential for fratricide or friendly fire. Accordingly, no B–2 delivered-dispenser was allowed closer than 2 kilometers from friendly lines, even though this meant that some vulnerable clusters of vehicles could not be targeted. Similar to the previous case, the white rectangles appearing on the screen represent the lethal footprint of the inertially-guided dispensers.

You can see the dispensers and submunitions impacting the forward echelon and across the rear. The ability to place firepower in key areas greatly enhances efficiency. The number of kills in this situation was highly dependent on targeting delays and ran from a low of 85 vehicles to a high of 236 vehicles. In many cases, the attacking division was rendered ineffective.

This shows a close-up of remaining vehicles in one area of the battlefield.

This view provides an overview of the number of vehicles killed in the attack.

The simulated attack shown in this video were conducted by three B–2 bombers in each case. A number of factors, however, would increase the total number of bombers needed to conduct the operation. The need to maintain 24-hour coverage over areas of interest combined with long flight distances, such as from the continental United States to distant theaters can dramatically increase the number of aircraft needed. Other factors affecting bomber force size and performance in combat includes catching the enemy in the more vulnerable posture, threat of war, submunitions, and possibility of human error.

Even with all these caveats, however, the ability of the B–2 to precisely and rapidly deliver large payloads over long distances mitigate many of these problems.

Compared to other forces that employ smaller numbers of weapons, heavy bombers will be somewhat less sensitive to decreases in munitions effectiveness. The mass and timeliness of firepower delivered by B–2s combined with the highest survivability through stealth makes them the preferred choice in the early stages of conflict when other forces are still deploying forward. These results point out the value of this bomber in attacking enemy armor forward forces on the move. Such a capability could be essential in the merging world of limited strategy warning and reduced forward force presence.

[End videotape.]

Mr. DICKS. Thank you, gentleman. I would just say for my colleagues who came in, basically what we were looking at is a situation in which you had an Iraqi division road march, three columns going against them with three B–2s and basically out of 750 vehicles in this simulation, 350 were eliminated.

In my judgment, it is a very extraordinary new capability and the best part of this is that the airplane can operate autonomously, where as you have limitations with your B–52s and B–1s in terms of not having stealthy characteristics and this could be used early on. So that is basically what we saw there.

Mr. DARDEN. What was the altitude, Mr. Chairman?

Mr. DICKS. What altitude were they at?

Mr. BUCHAN. 30,000 feet—excuse me, 40,000 feet.

Mr. HEFNER. What kind of munitions were they using?

Mr. BUCHAN. Skeet submunitions, the Air Force infrared-guided terminal submunition.

Mr. DONOHUE. Sensor-fuzed weapon.

Mr. BUCHAN. They come in a tactical munitions dispenser. Each one carries 40 of these, each of which has 10 submunitions in it.

Mr. HEFNER. Would these be considered smart?

Mr. BUCHAN. Yes.

Mr. DICKS. So the dispenser opens and in each one you have 40 bomblets and they would go out and hit these vehicles off the top.

Mr. BUCHAN. Right.

Mr. DICKS. Why don't you go ahead? I have to apologize. We will be interrupted by votes all afternoon. We will do our best.

Mr. BUCHAN. Thank you, Mr. Chairman.

BOMBER FORCE STRUCTURE AND MODERNIZATION

This simulation shows the potential heavy bombers have and why we are interested in it. I would like to expand on that theme for just a moment to discuss why the United States ought to be interested in heavy bombers and then talk about what is necessary to make the force effective.

First, I am going to talk about weapons, then some modifications to the bombers, and then the possibility of new operational concepts to make them more effective.

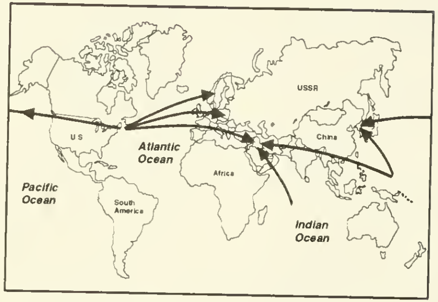
Next I will examine the bomber force structure and talk about what it ought to look like. I will make some comments about the implications of the planned reductions in the bomber force and compare those to what a more optimal force structure might be, and then finally I will mention some other problems that will require additional research to address.

First, I want to just remind you of the fundamental characteristics that distinguish heavy bombers from other weapons. They are long range and substantial payload capability. What that means is that they can deliver large, diverse payloads, some of which you have just seen, virtually anywhere in the world in a matter of hours. That means they have inherent advantages with massive or sustained firepower, particularly if the attacks need to be long range from relatively safe bases.

The Role of Long-Range Bombers

Nuclear
Deterrence

Conventional Power
Projection



Long Range

- Worldwide power projection within hours
- Sustained operations from relatively safe bases
- Loiter time

Large Payload Capacity

- Massive firepower

Designing a bomber force for use in the early phases of a major conventional campaign is the key:

- Unique niche for bombers
- Force designed for early phase of a major campaign is more than adequate for later combined operations

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CHART 1

Chart one in the handout suggests some of the roles that long-range bombers have played in the past and could play in the future. There is a new wrinkle in the evolving world that our analysis found to be critical and it is the one we have been talking about.

With U.S. military forces shrinking in size and generally withdrawing from overseas bases, the United States has limited options available for bringing force to bear in the early hours or days of an emerging conflict in a remote part of the world.

In fact, heavy bombers could be the only practical option for providing substantial amounts of firepower in the early days of a war while other forces are still deploying to the theater. That is particularly true where there is no naval presence or in situations that require massive firepower. That suggests long-range bombers could fill a unique niche in overall U.S. military capability.

Moreover, we found when examining this particular role that structuring a bomber force to deal with demanding contingencies in the early phases of a conventional conflict would provide a force adequate for the full spectrum of other things that bombers could do as well.

Our analysis did show that this role was potentially quite demanding, as you can imagine. So we have to look very carefully at new weapons and modifications to the bombers and operational concepts. We will treat those in turn.

All of our analyses of heavy bombers—in fact, all of RAND's analysis of conventional forces in general for the last decade or so—have demonstrated the critical need for better weapons: Moreover, the quite different characteristics of the B 52, B–1 and B–2 make matching appropriate weapons to the right bombers particularly important.

The Proper Matching of Bombers and Weapons Is Critical for Developing an Effective Bomber Force

	Penetrating bombers			Standoff cruise missile carriers
	Very short range	Short range	Medium range	Long range
Nuclear weapons	Bombs		Short range attack missile (SRAM-A)? *~~SRAM-II~~*	Air launched cruise missile (ALCM) Advanced cruise missile (ACM)***
Conventional weapons	Bombs, submunitions dispensers – *Inertially or inertial/GPS guided weapons* • 2000 lb bombs (JDAM-I*) • • TMDs (WCMD**) – *Other precision-guided bombs (JDAM-III)**	Have Nap *Joint Standoff Weapon (JSOW)*	*Tri-Service standoff attack missile (TSSAM)*	Tomahawk? ALCM-C
Typical carriage capability	30 – 80 (≤1000 lb) 16 – 24 (2000 lb)	8 – 22		

* Joint Direct Attack Munition (JDAM)
** Wind corrected munitions dispenser (WCMD)
*** Buy limited to 528 (PAA), 640 (TAI)

- Existing weapons
- *Planned weapons*
-

- ***Issues***
  - Programmatic status
  - Weapon effectiveness (accuracy, lethality)
  - Bomber survivability (standoff range)

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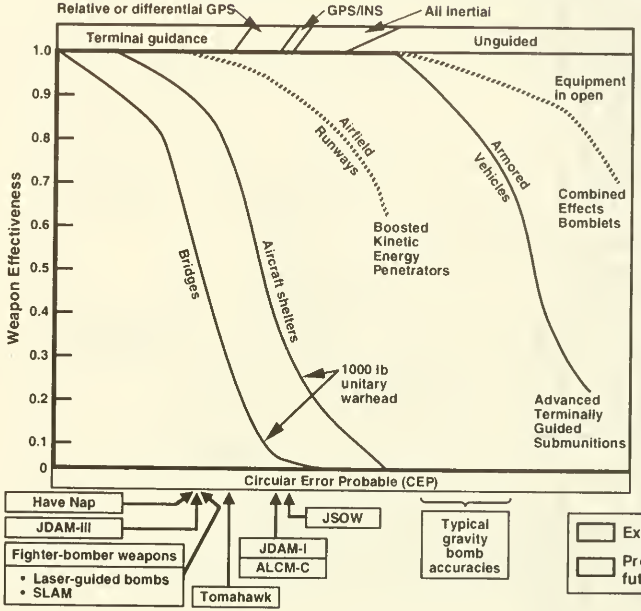
CHART 2

Chart 2 in the handout tells a much more encouraging story than an earlier version did a couple of years ago. Since then, the Air Force has initiated several new weapons programs—JDAM, JSOW, and wind-corrected munitions dispensers, in particular, that can remedy a number of deficiencies identified by earlier RAND bomber studies. Some limitations remain, but having actual programs underway in critical areas is an important step.

The chart illustrates the substantial payload advantages to the bombers in getting very close to their targets. Carrying longer range weapons to allow the bomber to stand off from targets to avoid defenses comes at a price of reduced payload. Standoff weapons become more complex and costly as their ranges increase.

Choosing the proper standoff range and proper mix of these weapons requires careful analysis of capabilities of the particular types of bombers and particular sorts of air defenses they might have to deal with. I also note from this table that using larger warheads reduces the number of warheads the bomber can carry, for example the difference between 2,000 and 500 pound bombs. We found that it may or may not be necessary to carry larger bombs depending on the types of targets. Achieving the accuracy and lethality against the targets is the key to effectiveness and we would like to turn to that next.

There Is a Broad Range of Possibilities for Increasing Bomber Weapon Effectiveness



- Improved accuracy greatly increases weapons effectiveness
- Terminal guidance generally *not* required
- Large (e.g., ≥2000 lb) warheads generally *not* required

☐ Existing weapons

☐ Programmed future weapons

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CHART 3

Chart 3 in the handout shows how the effectiveness of different classes of weapons varies against different kinds of potential targets as a function of accuracy of the weapons. On the right hand side of the chart are unguided dumb bombs dropped in great numbers by B–52s during the war with Iraq. The curves show why the attacks were relatively ineffective in terms of damage. The weapons were simply not accurate enough.

On the left-hand side of the chart are laser-guided bombs and other optically-guided weapons employed by fighter bombers for precision attack during the Gulf War. These weapons achieve accuracy with terminal guidance.

Mr. DICKS. We will have to stop the proceedings momentarily so that we may vote on the House floor. If you have any questions, please wait until we resume the briefing.

[Recess].

EFFECTIVENESS OF MUNITIONS

You talk about the effectiveness of weapons. What is the difference between, say, a dumb bomb and a PGM in terms of likelihood of hitting the target?

Mr. BUCHAN. You can get an idea of that if you look at figure 3, the dumb bomb is at the far side. Basically, what the chart shows is the probability of the weapon killing whatever target it is trying to attack as a function of how accurate it is. What you see is the curve starting high at one and dropping off dramatically as the accuracy of the weapon decreases. So if, for example, you look at the shaded area on the right hand of the chart that you see labeled "unguided weapons", those are the typical dumb bombs.

If you look at bridges, for example, (That is the first curve on the left side.) You almost never hit a bridge with a dumb bomb. You have to drop an awfully lot to do that.

So that is the kind of effect you are seeing here.

Now, the really important thing is—one of the things that has happened since we developed things like laser-guided bombs to be really precise—is that people tend to juxtapose very dumb and very smart bombs. One of the conclusions that we drew from our analysis, (the light shaded area in the middle of the chart) is that most of the targets of interest require something better than dumb bombs but not anything nearly as good as a laser-guided bomb. The advantage there, especially for bombers that carry a lot of bombs, is that with rather simple, cheap upgrades like adding inertial guidance and GPS receivers to the cheap existing weapons, one can get very effective weapons against most of the targets.

It is that area that until rather recently has been neglected in most of the Air Force modernization programs but there have been big improvements as we start to fill in the gap.

Mr. DICKS. This is where you put the guidance kit on the bomb, dumb bomb and that makes it much more accurate.

Mr. BUCHAN. Exactly.

Mr. DICKS. But it isn't as expensive.

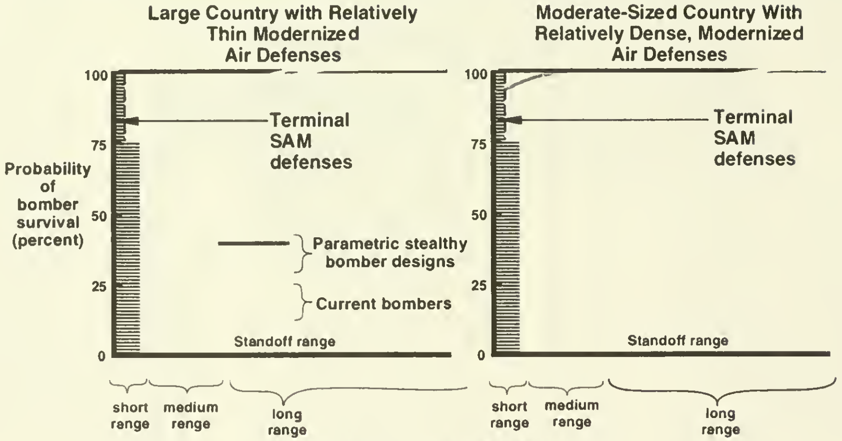
Mr. BUCHAN. Yes, correct. That is one of the two points I wanted to make on this chart. The other has to do with size of weapons. This is particularly important for bombers.

You recall from that earlier chart that there is a payload penalty, a rather substantial penalty, when one goes from 500 to 2,000 pound bombs. Most of the precision-guided weapons programs at this moment focus on larger weapons, like 2,000 pound bombs. One of the things we found in our analysis is that most targets don't really require bombs that big. One frequently is better off with a lot of 500 pound, moderately accurate bombs than a few big bombs. So one of our specific conclusions is there ought to be upgrading of the smaller weapons as far as bombers are concerned.

BOMBERS SURVIVABILITY

Let me talk to you briefly about the business of standoff range and survivability. That is chart 4 in your package.

Penetrating Air Defenses at the Start of a War



- Projected future air defenses (c. 2000)
- No SEAD or escorts
- Targets near national capitals
- Optimal bomber routing

For deep attacks in the early phases of a campaign:

- **The older bombers need long-range cruise missiles**
- **Stealthy bombers can survive with short- or medium-range weapons**

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CHART 4

Now, what we are doing here is plotting the probabilities of bombers to survive in the air defense environment in the early part of a distant war before we have had a chance to thoroughly suppress the air defenses and before our fighters are there to escort the bombers and make life easier.

We are assuming for the purposes of this attack two quite different sorts of countries that span the space that we considered in our analysis. We are assuming that we want to make very deep initial attacks into the country to see what that would do to the survivability of the bombers and what standoff requirements for weapons that might lead to.

There are two striking conclusions. On the figure we have shown a parametric range of bomber designs because we can't talk specifically about the B–2 here. We have shown the two existing bombers, the B–1 and B–52.

You will notice first that the stealthy bombers at the top of the figure can fly relatively unscathed through most of these air defenses. Even the least stealthy bomber design we considered could get within medium range missile distance of a target. Specifically what that means programmatically is that even in the least stealthy bomber we examined could attack the target directly with a weapon such as TSSAM even under quite severe conditions. By contrast, either of the two existing bombers, either the B–1 or B–52, if it is going to stay relatively safe, will have to stand off quite a distance. In fact, it will have to have missiles in the long range category to be safe.

Mr. DICKS. And they are more expensive.

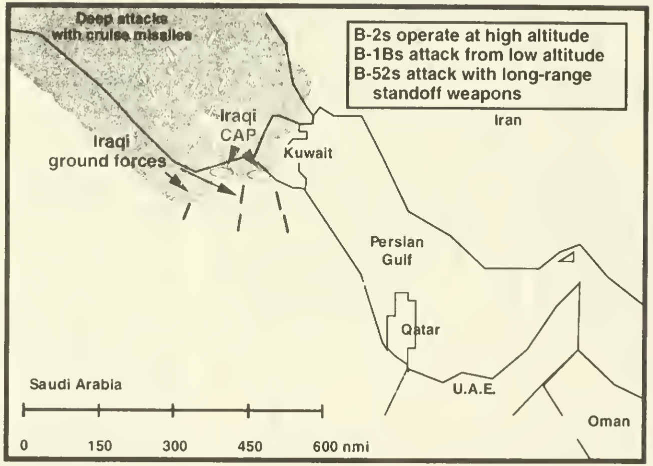
Mr. BUCHAN. They are more expensive. Possibly even more important at the moment, there is no program out there for them. There are a handful of ALCM–Cs.

Mr. DICKS. That is a limitation.

Mr. BUCHAN. There are a handful of ALCM–Cs in the program, but they are not funded at the moment. That is all. So if the older bombers are to be used in the early stages of the war to make deep attacks against targets, it has got to be with cruise missiles.

That actually leads into the next point which has to do with operational concepts. This is chart 5 in the handout.

Making a Small Bomber Force Effective in a Stressing Major Regional Conflict – A Notional Operational Concept


Deep attacks with cruise missiles
B-2s operate at high altitude
B-1Bs attack from low altitude
B-52s attack with long-range standoff weapons
Iran
Iraqi CAP
Iraqi ground forces
Kuwait
Persian Gulf
Qatar
Saudi Arabia
U.A.E.
Oman
0
150
300
450
600 nmi

Quite different from traditional bomber operational concepts
- Bombers operate cooperatively (e.g., B-2 assists B-1)
- Bombers perform different tasks (e.g., B-2 for surveillance)

CHART 5

BOMBER FORCE ALLOCATION

Part of the secret to making a small bomber force effective, especially in this environment, is trying to get a division of labor among the bombers that uses each bomber to do what it does best and tries to keep them safe, relatively speaking.

Now, what that means in this case is a large armored invasion, in this case an Iraqi invasion of Saudi Arabia; That requires, as the Bottom-Up Review correctly stated, giving first priority to stopping that invasion. We have also assumed for purposes of the analysis that there are at least enough deep targets in the country that need to be attacked early on that we have to worry about that, too.

Now, as that tape showed, we could attack the armor successfully if we have a large B–2 force. One of the problems of having only a few is that one you can't really bring in enough firepower even if the bomber and submunitions work and all that. So what we have shown here is a possible operational concept that one might be able to implement with a combination of B–2s and B–1s where the B–2s both act as bombers and also play a role of managing the battle, trying to help find the targets for the B–1s, and trying to help the B–1s avoid air defenses, get in, make attacks, and get out.

Now, that is quite different from anything the Air Force has ever tried to do before. Some of the work we are doing now in the study that Dave Frelinger leads is specifically designed to address the technical and operational feasibility of that at the nitty-gritty level.

Mr. DICKS. B–2s handle defense suppression, surface-to-air missiles to make it safer for the B–1s to operate.

Mr. BUCHAN. Right.

Mr. DICKS. What fighters would do normally.

Mr. BUCHAN. They will also provide the sort of support that AWACS and JSTARS provide later by searching for fighters and targets and providing that information to B–1s. That is a tricky business to orchestrate, but that is the kind of thing one has to worry about doing if you don't have many B–2s and you are trying to make the B–1s work as well as they can.

Mr. DICKS. The problem the B–1 has is it is not stealthy and doesn't possess the offensive countermeasures.

Mr. LEWIS. Are you talking about a stealthy B–2 at high altitude using electronic equipment?

Most Effective Bomber/Weapon Combinations

Bombers / Stage of the campaign	B-52	B-1	B-2
Early	• Long-range cruise missiles	Interdiction: JSOW Deep attack: long-range cruise missiles	• JDAM • TMD/WCMD • Short-/medium-range defense suppression weapon
Later	• JDAM • TMD/ WMCD	→	→

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CHART 6

OPERATIONAL EMPLOYMENT OF THE BOMBER FORCE

Mr. BUCHAN. Yes. If you turn to the next chart, Chart 6, you will see our conclusions about the proper matching of bombers and weapons. It is that kind of operational concept and the combination of survivability and lethality problems that led us to this set of recommendations for weapons.

Dividing the chart into two different pieces, the bottom piece has to do with later phases of the war when air defenses are down and bombers have a lot of help.

At that point, JDAMS and tactical munitions dispensers are the appropriate weapons for all the bombers. They can penetrate rather well and they can take advantage of their payload capability, but in the early phases of the war, things are different.

Short-range weapons are still right for the B–2. In addition, the B–2 needs some kind of a short-to-medium-range defense suppression missile, perhaps a TSSAM. By contrast, the B–1 still needs at least some standoff range to stay away from terminal SAM defenses even if we can orchestrate this operational concept that keeps them relatively safe, and that means JSOW.

JSOWs, in turn, are going to mean a 3-to-1 payload disadvantage, so it will take three times as many B–1s to do this as it would if they could just fly directly over the target. Either the B–1 or the B–52 would need long-range cruise missiles if we were to employ them in the early phases of the war.

Mr. DICKS. Conventional cruise missiles. What does HAVE NAP give us?

Mr. BUCHAN. That is a 60-nautical-mile range missile.

Mr. DICKS. Which means the bombers would still be vulnerable because of either fighter attack or surface-to-air missiles, because that range is still too close in?

Mr. BUCHAN. Right.

Mr. DICKS. How long of a range would you need?

Mr. BUCHAN. Several hundred miles.

Mr. WILSON. They would have to have a several hundred mile standoff, but the HAVE NAP is the best we have.

Mr. BUCHAN. HAVE NAP is at the moment the only thing we have that will go on bombers. We have some ALCM–Cs left from the Gulf War. We may build more.

At this time, that is not funded.

Mr. MURTHA. What is their range?

Mr. BUCHAN. Several hundred miles.

Mr. DICKS. They are much longer range. So in other words, the B–52s and the B–1 in the early going, if you try to penetrate, you run the risk of getting them shot down by fighters or by surface-to-air missiles and the only reason the B–2 can go in is because it is stealthy.

Mr. BUCHAN. Right.

Mr. DICKS. And that is the unique characteristic that allows it to go in in that deep situation and be able to attack the targets.

Mr. BUCHAN. Yes. Let me mention a few things about the bombers themselves. This is part of the research we are doing now. We are not finished with it and will be happy to give you an update when it is appropriate.

CONVENTIONAL UPGRADES FOR THE BOMBER FORCE

The bombers themselves are going to need modifications. Some are in the plan and some aren't. The most important thing they need is to be able to carry all the new conventional munitions. That is in the works.

Mr. DICKS. All the bombers, B–1s, B–2s, B–52s, all need these?

Mr. BUCHAN. Yes.

Mr. LEWIS. A modification to carry all the conventional——

Mr. BUCHAN. Yes.

Mr. DICKS. We have all these new conventional weapons coming. They have to be integrated on to the aircraft?

Mr. BUCHAN. Right.

Mr. DICKS. That takes equipment. We are trying to do that with the GATSGAM thing on the B–2.

Mr. BUCHAN. That is a prerequisite. In the same vein, though, I point out that in most of our analysis, we have taken advantage of the potential payload capability of the bombers, which means carrying a lot of weapons.

For the most part, those modifications—the sort of bomb rack that would be necessary to carry a very large number of 500-pound GPS-guided bombs—are not in the plan.

To make most effective use of the bombers, we need to do that kind of thing. Beyond that, there is an additional set of modifications that may or may not prove necessary having to do with improving the computer hardware and software on the planes so they can do some of these more clever operational things, use their sensor information better, et cetera.

Most of that is not in the program either. So there is a flag out there. We are still working out the details.

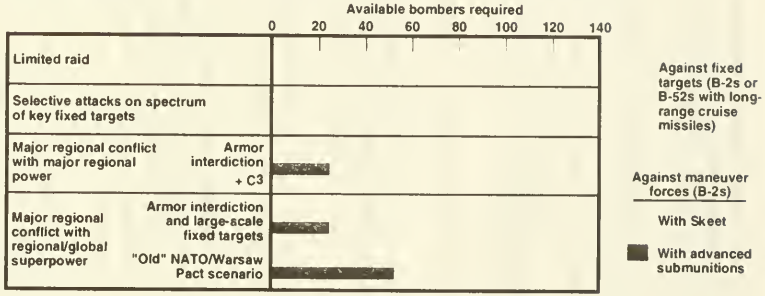
That said, let me turn to the question of force structure, assuming that we do make proper modifications to the bombers and buy appropriate weapons.

Let me quickly describe to you how we go about this kind of thing so you will have some feel for it and then let me show you some force structure numbers.

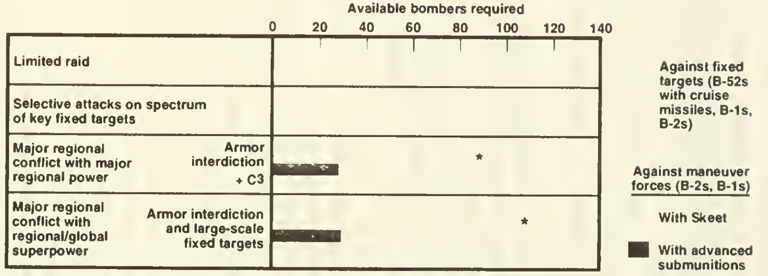
What we have done in the past has been to examine a very large number of specific potential conventional scenarios and try to generalize from that, dividing things into groups.

Long-Range Bomber Forces for a Spectrum of Conventional Conflicts

- **B-2 – Heavy**



- **Small (≤20) B-2 Force**



*Reduced overall antiarmor effectiveness against operational countermerasures

CHART 7

We found there basically turned out to be four varieties, all of which are shown in Chart 7 in your handout. The smallest are things like limited raids of the Libya type. Raids of that sort require only a small number of bombers, but there is a quality issue. They still have to penetrate the air defense and destroy the targets.

So a small force with the right kinds of weapons will do that. If we try to find particular cases where an initial attack on just some manageable number of fixed targets could be militarily decisive, first we find that that doesn't occur that often.

Second, when it does, a force on the order of 20 or so bombers, either B–2s or B–52s with long-range, conventional weapons, say, is probably enough. That is not terribly stressing on numbers. Where numbers start to matter is when one talks about major regional conflicts against a competent opponent. We find those come in two flavors.

The third group, which we have called a major regional conflict with a major regional power, is basically the class of conflict that would require countering an armored invasion.

Mr. DICKS. Iraq, Iran, Korea, potentially Russia?

Mr. BUCHAN. Basically, in the stressing case, if we were designing the bomber force from scratch, a force of 60 or so B–2s complemented by a small number of cruise missile carriers to attack fixed targets early on.

As the chart shows, if we had a much better submunition than Skeet, we could perhaps get by with a smaller B–2 force.

Mr. DICKS. So you need something better than a sensor-fused weapon.

Mr. BUCHAN. Better than a sensor-fused weapon?

Mr. DICKS. Is BAT better than——

Mr. DONOHUE. BAT is better. Whether BAT is the right submunition, we are not sure. It is theoretically better.

Mr. BUCHAN. It is better in the sense that it has a much bigger footprint on the ground so it covers more area.

There is a question of whether BAT has the right sensors. There is nothing else in the program. There was another submunition that we used in some of these calculations called Infrared Terminally Guided Submunition, an Army program cancelled in favor of BAT.

On paper and in limited tests, it is significantly better than Skeet, but not as good as BAT.

I think the answer is two pronged: First, yes, there is BAT, which may or may not turn out to be right. If that is not the right answer, there are other technical possibilities, but there is nothing in anybody's program about that now.

There is at least a fourth level of conflict that really extends this MRC notion to a more competent opponent called here a regional or global superpower.

Basically, that means that we have to do a much larger initial fixed target attack, perhaps an airfield suppression attack. If we have to worry about that, it means adding on the order of 30 or 40 cruise missile carriers early on to the B–2 force.

So now you are up to around a hundred, but a different mix.

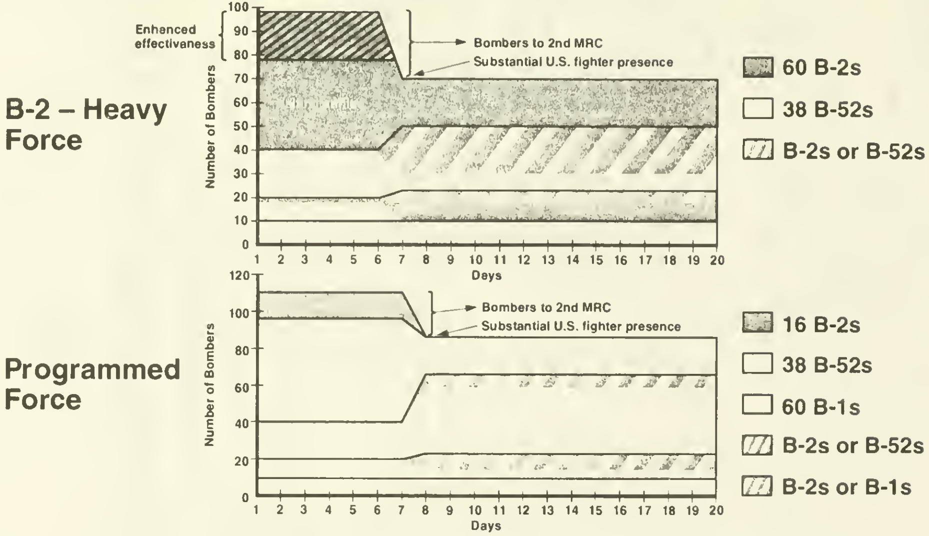
Mr. DICKS. So you would have some B–2s and some B–2s or B–52s?

Mr. BUCHAN. Yes. That is the way that breaks out. At the bottom, we have shown you what we could do with something like a programmed force without too many B–2s in it. It shows on the bar for armored interdiction, that large numbers of bombers required.

Now, it is a mix of B–2s and B–1s. What the bars don't show is that it is a much less effective attack. It is the sort of attack that works if everything goes well in the theater, but vulnerable to things like offensive countermeasures, the kinds of things that we would like a better submunition to counter. That is the difference between those two forces and that is kind of how we go at this sort of thing.

Keep in mind even the big numbers are for a single MRC. To get to your point about a second MRC, let me turn to the next chart, Chart 8 in your handout. We have assumed here a demanding initial MRC that involves halting armies and also involves a rather large fixed tactical attack.

Prospects for Diverting Bombers to a Second Major Regional Conflict (MRC)



B-2 – Heavy Force

Programmed Force

- Assumes a very stressing initial MRC
  - Large armored invasion
  - Effective enemy air force
- Includes a small force for maritime support and limited raids

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CHART 8

Say that soaks up at least a hundred or so bombers for the first week or so of the war, assuming everything goes well and they are properly equipped. After about a week, there is a possibility of pulling off some of that force to go to a second MRC.

So you can see some things from this immediately. If one had two MRCs of that scale, then one would have to have a lot bigger bomber force to deal with it. If the two MRCs are nearly simultaneous and one is not as stressing, then there is a possibility for handling it.

The possibilities are better with the B–2-heavy force at the top of the page than the programmed force at the bottom of the page. Not only are the B–2s more capable in this kind of situation, but also they are simpler to operate than a combined B–1/B–2 force. You will recall those kinds of integrated operational concepts I talked about before that were necessary to make a combined force work. The problem is if one does that, it is hard to break up that integrated force into chunks to send to the second MRC, so the picture is kind of mixed.

On the other hand, there are some things that mitigate the problem a little bit. In the first place, even a major regional conflict might not include all these elements that stress the bomber force, so that helps some. It is also unlikely that two such conflicts of this order would erupt in the world at the same time. Even a few days spacing helps.

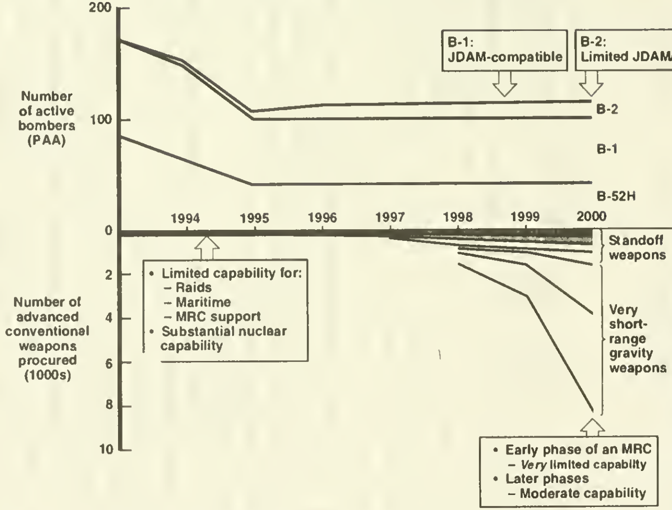
It is particularly important for the bomber force, because of all the types of forces, bombers are the ones that can flip quickest from one MRC to a second.

They are the point of the spear in this sort of attack.

PROGRAMMED BOMBER FORCE

Let me move to discussing the programmed bomber force in general and some of its limitations. This is chart 9 in your handout.

The Planned Bomber Force Will Have *Very Limited Capability in This Century*



Weapon system	Approximate Air Force inventory goals
■ Have Nap*	One hundred to a few hundred
▨ ALCM-C*	Few hundred
☐ TSSAM	Several thousands
☐ JSOW	Several thousanda
☐ JDAM–1	Tens of thousands
☐ "Smart" TMD/SFW	Tens of thousands

* Currently unfunded

The major problems are:

- A *shortage of adequate weapons* for years
- Modifications required for the bombers will not be completed for years
- A *bomber/weapon mismatch*

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CHART 9

Now, we have shown at the top of this plot the plan for the bombers as we understand it, at least through the turn of the century. On the bottom of the chart, we are showing when some of the important new weapons came into the force.

Now, there are several things that leap out immediately. First is the striking gap in time between now, when we don't have much capability to use the bomber force very effectively, and the end of the century when we are only starting to get the right kinds of weapons available in numbers that matter.

So there is that problem immediately.

Mr. DICKS. That is because the weapons we have today are basically a lot of dumb bombs; right?

Mr. BUCHAN. Correct.

Mr. DICKS. You don't have the long-range capability for cruise missiles, the TSSAM, JDAMS, other systems that would give the B–1s and the B–52s more capability?

Mr. BUCHAN. Exactly right. The weapons are coming into the program late. The bomber modifications are coming along slowly, too, although correlated pretty well with the weapons schedule at this time. But the real problem is there is the striking mismatch between the bombers that we have and are going to have for the next several years and the weapons they have.

If we were to want an immediate capability here, the kind of things we would want are long-range missiles in existing bombers so we could use them in the early phases of conflicts, and we would want as quickly as possible inertial guidance kits added to weapons that all the bombers could carry.

Because all that is taking time and is a little out of phase, it will be a number of years before the bomber force could do the kind of things we have talked about doing here.

Mr. DICKS. So for the next five or six years, we have a bomber force lacking in capability because we don't have enough B–2s, and the B–1s and the B–52s are limited not only because they are not stealthy, but they don't have the smart weapons, standoff weapons in particular and therefore there would be problems with penetration until air superiority would be gained.

In this situation, like Iraq, we have to do it with F–117s and fighters because we don't have B–2s.

Mr. BUCHAN. That is right. There is a certain irony. The schedule is such that they would be more appropriate for a B–2 heavy force. Since at this time we don't plan on a B–2-heavy force, that just lengthens the gap before we are going to have an effective bomber force.

Mr. DICKS. And then the question is how effective can you be when you only have the prospect of 20 B–2s.

Mr. BUCHAN. Right. That is the problem.

Mr. LEWIS. I would like to ask a question. Have you given this briefing to the authorizing committee as well?

Mr. BUCHAN. No.

Mr. DICKS. We are trying to help—encouraging, urging these committees to get this briefing.

Mr. Buchan.

FORCE STRUCTURE CONCLUSIONS

Mr. BUCHAN. Let me wrap this up. I had one other section on miscellaneous problems that I will skip. Let me basically go through our conclusions on force structure-related kinds of things.

We start first with the currently planned sort of force, which is 40 B–52s, 60 B–1s, and around 20 B–2s. If they are modernized and suitably equipped, a force like that might be able to handle a stressing major regional conflict if all goes well.

I am talking about one. That sort of force would have no reserve for nuclear use. We think that would take an extra 40 or 50 B–52s with cruise missiles, very little margin for attrition, no margin for trade-offs of long-range bombers and other types of forces, no extra firepower to compensate for unexpected situations and only very limited capability to support a second major regional conflict.

If we had a force of roughly that size——

Mr. DICKS. You are saying that in order to fight just the one regional contingency that all 107—planes would be required for conventional purposes?

Mr. BUCHAN. Right.

Mr. DICKS. So you wouldn't have anything left for the nuclear SIOP mission?

Mr. BUCHAN. Correct.

Mr. DICKS. In your professional opinion, is it your opinion that this is a very inadequate bomber force? If the strategy expressed is to be able to handle two MRCs, I would assume that you feel that this bomber force isn't up to the task.

Mr. BUCHAN. It is certainly very marginal.

Mr. DICKS. Go ahead.

Mr. BUCHAN. The other thing is if we had a force with roughly comparable size that included more B–2s, we could do significantly better, especially for two MRCs. Even a force with about 40 or so B–2s would have roughly the same firepower as the other force, but still more flexibility, so it would still be better.

One last comment in passing just to underscore what we have said earlier. The details of the force structure really aren't the most fundamental issues that the United States has to worry about in developing an effective bomber force. It has to worry about getting the right weapons and getting them on line quickly and modifying the bombers as soon as possible so they can use those weapons.

Mr. DICKS. And that takes time.

Mr. BUCHAN. Yes.

Mr. LEWIS. You said the details of the bomber force is not what you have to worry about so you are really talking about B–52s, B–1s versus B–2s, if you don't have the weapon systems——

Mr. BUCHAN. Right.

Mr. DICKS. Congressman Wilson, do you have any questions?

Mr. WILSON. No questions.

Mr. DICKS. Congressman Visclosky?

Mr. VISCLOSKY. No questions.

Mr. DICKS. Congressman Lewis?

Mr. LEWIS. Let me just ask, if we have a moment. This is very interesting work and to say the least this Member is going to have to spend a lot more time with you to get a handle on what the differences in the weapons systems are and I look forward to that.

I am sitting here a bit shocked at the thought that the authorizing committee, which has made some pretty strong recommendations in the past regarding our bomber force, hasn't had this kind of briefing.

Is the material that new that they haven't had a chance to see it or is there not an interest?

Mr. BUCHAN. I don't know, Congressman. Most of the basic information has been available several years now. This is the latest update, but there is nothing stunningly different in this.

Mr. LEWIS. Was this kind of basic information communicated in this kind of a hearing before we made those recommendations to the House by way of the authorizing committee?

Mr. BUCHAN. No.

Mr. LEWIS. How about in the other body?

Mr. BUCHAN. We have had more visibility on the Senate side with this.

Mr. DICKS. We will certainly be talking to members of the Authorization Committee about this.

I would like to summarize this hearing, if we are going to be at 107 bombers at the end of 1995, that is a very marginal force, probably barely able to handle one major regional contingency. The real problem is that the B–52s and the B–1s lack the better weapon systems which will have to be, in essence, integrated on those two platforms. That is going to take a period of time.

The weapon systems we are talking about are in development, some of them, for example, the long-range cruise missiles need to be converted to for the conventional mission. This problem is really, the major deficiency for the B–1s and B–52s, right?

Mr. BUCHAN. It is one of the two. The other major deficiency is in small, accurate bombs and bomb racks for them. It still doesn't help that much in the early phases, but it is cheap and it is worth a lot in certain situations.

Mr. DICKS. In a situation like Iraq, F–117s were used, we gained air superiority. Once you have air superiority, then you could use your B–52s and your B–1s because you don't have the problem of getting them shot down.

Mr. BUCHAN. Right.

Mr. DICKS. The problem is in the early going.

Mr. BUCHAN. Right.

Mr. DICKS. If you are talking about conventional deterrence, the fact that we don't have a capability today has made it possible for Saddam to make this invasion where if in the future we had say 40 to 60 B–2s with a cross section of the weapons we have talked about today, smart munitions and some very capable B–1s and B–52s to supplement, that would be a pretty potent conventional force and it would have to be taken into account by Saddam or Iran or North Korea before making this kind of attack.

Mr. BUCHAN. Right.

Mr. DICKS. Thank you very much, gentlemen. I am sorry about all the interruptions but I think under the circumstances, you did a good job. The Committee will take a five-minute recess before starting the next hearing.

WEDNESDAY, APRIL 20, 1994.

BOMBER PROGRAM

WITNESS

GEN. JOHN M. LOH, USAF, COMMANDER, AIR COMBAT COMMAND

INTRODUCTION

Mr. DICKS. The Committee will come to order.

We welcome General John M. Loh, Commander of the Air Combat Command, United States Air Force. General Loh, we are delighted to have you here today.

Members of the committee, we are stuck in these every-ten-minute votes. We will do the best we can under the circumstances.

We have had a good briefing today from RAND and discussed the overall situation with the bomber force and that is what we will want to focus on with you now. I just want you to know that I have great respect for your commitment and what you are trying to do in your area of responsibility and we want to work with you on this, but we are very concerned about the conventional capability and are coming up to crucial decisions about the B–2s and how many we are going to have.

In the past, most of the dialogue has been about things that are not as important as how you use this conventional capability and what is its potential. You and I have had a chance to talk about these things over the years. We are trying to find out whether 107 bombers in fiscal year 1995 provide the necessary capability for two MRCs or even one, and what kind of a bomber force we are going to have in the future.

We will put your complete statement in the record. If you will summarize, we will proceed with questions

SUMMARY STATEMENT OF GENERAL LOH

General LOH. Thank you, Mr. Chairman.

It is a pleasure to be here to discuss these important issues. I have a statement I would like to submit for the record. I would like to make an opening oral statement.

Mr. Chairman and members of the committee, thank you for the opportunity to discuss this vital component of our Nation's armed forces with you today.

As the Commander of Air Combat Command, it is my responsibility to organize, to train and to equip our U.S.-based combat Air Forces for worldwide employment. That is our role. We are a provider of combat forces to our unified, joint commanders around the world.

As Commander of Air Combat Command, I deal in the "means" of military power every day.

Because I provide the vast majority of the air power our theater commanders use to conduct their global operations, I am in constant contact with them, either face-to-face or via telephone.

All of them recognize that they have few in-place forces, yet could need massive firepower from the States in less than 24 hours.

That is why in all their war plans, they insist on immediate deployment of long-range, conventionally armed bombers.

During 1993, B–1s and B–52s participated regularly in joint exercises like Ocean Venture and are integrated into our training now at Red Flag. We sent B–1s to Team Spirit, our annual joint exercise with South Korea last year.

They were prominent players in Bright Star in Egypt a few months ago. We sent both B–1s and B–52s to Spain for three weeks to work with our allies all over the continent in a variety of operations.

Although the majority of our bomber force training focuses on conventional operations, they are still an important component of our Nation's nuclear capability. While it is no longer the centerpiece of combat air operations today, it remains a vital mission area and one that we tend carefully.

ACC fulfills a very important commitment to the United States Strategic Command. Our bombers provide approximately one quarter of its initial strike capability and forty percent of its survivable weapons. But the most important test of our bomber force's value is the part they play in the new national military strategy which was defined this past year.

Our bomber force is critical to our ability to deal with two major regional conflicts, occurring either back to back or overlapping one another.

Within hours, bombers can attack an opponent's most threatening means of destruction—his nuclear, chemical, and biological weapons. They can blind him by destroying his command, control and communication facilities. They can begin the process of depleting his war-making might and military forces.

All of these things could occur before American surface forces would be brought into play. As we gain forces and capability in the theater, our bombers would continue to prosecute the air campaign.

B–2s would destroy our enemy's best-defended high-value assets and our B–1s and B–52s would destroy the thousands of targets in less well-defended areas.

The B–1 is our most flexible platform in this area. It can fly in packages with fighters and other aircraft designed to suppress air defenses.

This reduces the B–1 vulnerability to attack, and more important, with B–1s included, these packages would have far greater firepower than if they were composed of fighters alone.

But the B–1 will not be limited to package operations. Because of its speed and maneuverability, it could also attack targets alone in many cases.

Although our B–52s don't have the B–2's stealth or the B–1s speed, they are still a capable aircraft, and we will rely heavily on them. In the initial stages, B–52s would launch stand-off weapons to destroy critical strategic targets.

After defenses have been suppressed, their high payload can be used effectively to deliver area submunitions and general purpose bombs. B–52s are also effective for laying land and sea mines and attacking enemy surface forces and fortifications.

At the onset of the second conflict, our bombers would respond first again. At this point, the enhancements we have requested from you become crucial.

If a significant number of our aircraft are still engaged in the first operation, or were engaged in enforcing the peace after a conflict, our bombers become doubly important.

As hostilities escalate, I also expect the STRATCOM Commander to draw an ACC's bomber force. Nuclear deterrence is only effective when we maintain a credible threat. Bombers on alert give us that credibility.

Because bombers carry such a large payload and can cover vast distances with such great speed, the quality of the sorties they fly helps compensate for the lower quantity of aircraft that we will be able to swing to the theater at the onset.

This is where we will see the greatest payoffs from our investment in stealth on the B–2, and this is where I believe we will gain the greatest advantage from the enhancements we are planning to make.

Prudent upgrades can give our national leaders and war-fighting commands more and better options for dealing with a wide range of challenges. The most important enhancement we can make is to equip all of our bombers with precision-guided munitions.

When the upgrades we have requested for the B–1 are complete, it will be able to carry 24 PGMs and the B–2 is already programmed to carry 16.

To make the most of our bombers, we plan to equip them with both point and area munitions.

All three of our bombers will be equipped with two new point munitions: the Joint Direct Attack Munition, the adverse weather precision-guided munition that we expect to begin fielding in 1999, and the Tri-Service Standoff Attack Missile.

The B–1 and B–2 will also carry munitions designed for use against surface forces.

They include the Sensor-Fused Weapon, a cluster munition designed to destroy enemy armor with multiple kills per pass during the day or night and in adverse weather, and the Combined Effects Munition, an anti-armor and anti-personnel weapon with a fragmentation and incendiary warhead.

It is also very important for us to improve the electronic countermeasures on the B–1. The B–1 will be the workhorse of any operation of this nature. If it has fully capable electronic countermeasures, the B–1 will be able to use it more freely.

With the improved electronic countermeasures, the B–1 will be much more survivable when operating with or without support forces.

We also appreciate the opportunity you have given us to show that the B–1 is as sustainable as the B–52. We look forward to beginning the six-month operational readiness assessment of the B–1 wing at Ellsworth Air Force Base, South Dakota, in June of this year.

We believe this test will show exactly what is needed to ensure the B–1 can sustain the mission-capable rates we need.

Because of this inherent capability, I believe that a relatively small investment now in our bomber force will bring us very high returns.

Our bomber force already has the range, the speed, and the payload capacity to negate the barriers of time and space a potential aggressor would hope to use against us.

Our ability to win quickly and decisively, and with few casualties, as the Bottom-Up Review and our defense guidance demand, depends on a great many interrelated factors.

One of the most important of these is how many aircraft we can deploy on very short notice. Our requirement is to deploy 100 combat-capable bombers to a major regional conflict and fly them at higher rates than in peacetime.

As you know, it takes more than 100 bombers to ensure we have that many ready to deploy at any given time.

Like our other aircraft, we have bombers in several categories.

Most are in an operational status for either wartime combat use, conventional and nuclear, or for the training of crews.

Then we have a smaller number in the depot modification, and a few in test status.

We also will not be able to equip all of our bombers with a precision-guided munitions capability until beyond the year 2000 because of development and production times for the Joint Direct Attack Munition, the Tri-Service Standoff Attack Missile, and the Sensor-Fused Weapon, and the achievement of full capability in our 20 B–2s.

So in the meantime, we have a gap in our desired bomber capabilities.

I believe our bomber force is well-tailored for flexible operations. They can move in and out of an area of responsibility quickly and join with indigenous forces or work alone if necessary.

If we did not have this fleet of highly-capable, long-range aircraft, our current national strategy would demand that we create them. Fortunately, our Nation has the best bomber force in the world.

Although they were built in a different era, to counter a different enemy in a different kind of war, they have the characteristics that are most valuable to us today.

They give us the ability to reach around the globe, strike fast, and strike hard. They are highly adaptable.

They give us a wide variety of options for weapons employment and allow us to sustain operations from the CONUS if we must.

We can make the most of these very valuable aircraft if we make a comparatively modest investment in enhancing their capability, especially in terms of equipping them with precision-guided munitions and retaining enough of them so that we can fulfill our global responsibilities for both conventional and nuclear missions.

In closing I would like to thank the members of this Committee for your long-standing support of our Nation's defense and request your continued, future support for air power adequate to meet our defense needs in a turbulent world.

Thank you, Mr. Chairman.

Mr. DICKS. Thank you, General.

[The biographical sketch and statement of General Loh follows:]

DEPARTMENT OF THE AIR FORCE

PRESENTATION OF THE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON DEFENSE
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: BOMBER PROGRAMS

STATEMENT OF: GENERAL JOHN M. LOH, USAF
COMMANDER, AIR COMBAT COMMAND

APRIL 1994

NOT FOR PUBLICATION UNTIL RELEASED
BY THE COMMITTEE ON APPROPRIATIONS,
UNITED STATES HOUSE OF REPRESENTATIVES

BIOGRAPHY

UNITED STATES AIR FORCE

Secretary of the Air Force
Office of Public Affairs
Washington, D.C 20330-1690

GENERAL JOHN MICHAEL LOH

General John Michael Loh is commander of Air Combat Command, with headquarters at Langley Air Force Base, Va. His command comprises more than 3,400 aircraft and 174,000 active military and civilian personnel at 45 major installations in the United States and Panama. Air Combat Command is responsible for training, equipping and maintaining combat readiness for all active, Air National Guard and Air Force Reserve combat wings and squadrons in the United States and Panama.

General Loh graduated from Gonzaga High School, Washington, D.C., in 1956 and the U.S. Air Force Academy in 1960. He has a master's degree in aeronautical engineering from Massachusetts Institute of Technology. He has commanded the Aeronautical Systems Division, Air Force Systems Command, and served as Air Force vice chief of staff. The general commanded Tactical Air Command, then upon its deactivation, became the first commander of Air Combat Command. He is a command pilot with more than 4,300 flying hours, primarily in fighter aircraft, and has flown 204 combat missions in Vietnam.

General Loh and his wife, Barbara, have a son, Michael; daughter-in-law, Dianne; and two grandchildren, Heather and Michael.

EDUCATION:

1960	Bachelor of science degree in engineering science, U.S. Air Force Academy, Colorado Springs, Colo.
1966	Air Force Fighter Weapons School, Nellis Air Force Base, Nev.
1968	Air Force Test Pilot School, Edwards Air Force Base, Calif.
1973	Master of science degree in aeronautical engineering, Massachusetts Institute of Technology
1978	Air War College, Maxwell Air Force Base, Ala.

ASSIGNMENTS:

1. June 1960 - January 1961, student officer, primary pilot training, Bainbridge Air Force Base, Ga.
2. January 1961 - October 1961, student officer, basic pilot training, Craig Air Force Base, Ala.
3. October 1961 - July 1962, student officer, intercept pilot training, Perrin Air Force Base, Texas.
4. July 1962 - June 1963, pilot, 76th Fighter Interceptor Squadron, Westover Air Force Base, Mass.
5. September 1965 - April 1966, pilot, 33rd Tactical Fighter Wing, Eglin Air Force Base, Fla.
6. April 1966 - July 1967, pilot, 40th Tactical Fighter Squadron, Eglin Air Force Base, Fla.
7. July 1967 - October 1968, test pilot, USAF Test Pilot School, Edwards Air Force Base, Calif.
8. October 1968 - November 1969, pilot, 389th Tactical Fighter Squadron, 366th Tactical Fighter Wing, Da Nang Air Base, South Vietnam.
9. November 1969 - May 1972, fighter requirements staff officer, Fighter Division, Directorate of Operational Requirements, Office of the Deputy Chief of Staff, Research and Development, Headquarters U.S. Air Force, Washington, D.C.
10. June 1972 - August 1973, graduate student, aeronautical engineering, Massachusetts Institute of Technology.
11. August 1973 - January 1975, YF-16/YF-17 program manager, Headquarters Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio.

12. January 1975 - July 1977, director of projects, F-16 Program, Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio.
13. August 1977 - June 1978, student, Air War College, Maxwell Air Force Base, Ala.
14. June 1978 - July 1979, assistant deputy commander for operations, 23rd Tactical Fighter Wing, England Air Force Base, La.
15. July 1979 - September 1980, deputy commander for operations, 23rd Tactical Fighter Wing, England Air Force Base, La.
16. October 1980 - April 1981, vice commander, 23rd Tactical Fighter Wing, England Air Force Base, La.
17. April 1981 - April 1983, assistant deputy chief of staff for requirements, Headquarters Tactical Air Command, Langley Air Force Base, Va.
18. April 1983 - July 1984, assistant deputy chief of staff for operations, Headquarters Tactical Air Command, Langley Air Force Base, Va.
19. July 1984 - July 1985, deputy chief of staff for requirements, Headquarters Tactical Air Command, Langley Air Force Base, Va.
20. August 1985 - July 1987, director of operational requirements, Office of the Deputy Chief of Staff for Research, Development and Acquisition, Headquarters U.S. Air Force, Washington, D.C.
21. July 1987 - July 1988, vice commander, Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio.
22. August 1988 - June 1990, commander, Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio.
23. June 1990 - March 1991, vice chief of staff, Headquarters U.S. Air Force, Washington, D.C.
24. March 1991 - June 1992, commander, Headquarters Tactical Air Command, Langley Air Force Base, Va.
25. June 1992 - present, commander, Air Combat Command, Langley Air Force Base, Va.

FLIGHT INFORMATION:

Rating: Command pilot
Flight hours: More than 4,300
Aircraft flown: A-7, F-4C, F-4D, F-4E, F-102, F-104

MAJOR AWARDS AND DECORATIONS:

Distinguished Service Medal
Legion of Merit with oak leaf cluster
Distinguished Flying Cross
Meritorious Service Medal
Air Medal with seven oak leaf clusters
Air Force Commendation Medal
Vietnam Service Medal with silver service star
Republic of Vietnam Gallantry Cross with Palm

OTHER ACHIEVEMENTS:

He was awarded the Daedalian Fellowship for graduate study, 1972. Also, he is the recipient of the 1972 Air Force Research and Development Award, and the Air Force's Eugene M. Zuckert Senior Management Award for 1989.

EFFECTIVE DATES OF PROMOTIONS:

Second Lieutenant	Jun 8, 1960
First Lieutenant	Dec 8, 1961
Captain	Dec 8, 1964
Major	Sep 1, 1970
Lieutenant Colonel	May 1, 1974
Colonel	May 1, 1979
Brigadier General	Jun 1, 1984
Major General	Oct 1, 1985
Lieutenant General	Aug 1, 1988
General	Jun 1, 1990

(Current as of August 1993)

Mr Chairman and members of the Committee, thank you for the opportunity to discuss this vital component of our nation's armed forces with you today. As the commander of Air Combat Command, it is my responsibility to organize, train, and equip our U.S.-based combat air forces for worldwide employment. That is our role; we are a provider of combat forces to our unified, joint commanders around the world.

Today, Air Combat Command is responsible for ninety percent of the Air Force's conventional warfighting assets. We are a combat air force of 24 1/2 fighter wing equivalents and 191 bombers, but our forces also include command, control, and communications assets, intra-theater airlift aircraft, reconnaissance and rescue forces.

We are the largest operational command in the Air Force. I have more than 167,000 active duty military and civilians under my command, but our forces also include 111,000 Air National Guard and Air Force Reserve personnel under mobilization conditions.

Air Combat Command possesses 26 bases, but we also have major tenant units at 12 non-Air Combat Command installations. Our people also work and live in 22 countries around the world. In addition, we have about 5,000 personnel deployed around the world on any given day supporting real-world operations in Southwest Asia, Bosnia, and Central and South America, ranging from no-fly zone enforcement, to humanitarian relief and counter-narcotics operations.

As commander of Air Combat Command, I deal in the "means" of military power every day. Because I provide the vast majority of the airpower our theater commanders use to conduct their global operations, I am in constant contact with them, either face-to-face or via telephone.

All of them recognize that they have few in-place forces, yet could need massive firepower from the states in less than 24 hours. That is why in all of their war plans they insist on immediate deployment of long-range, conventionally armed bombers. So, to maintain our readiness, our bombers are present in nearly every kind of training being conducted today. They work with other forces at every opportunity. It is not unusual for B-1s to join up with other Air Force and Navy combat aircraft to attack targets on our European or Pacific ranges.

During 1993, B-1s and B-52s participated regularly in joint exercises like Ocean Venture and are integrated into our training at Red Flag. We sent B-1s to Team Spirit, our annual joint exercise with South Korea. They were prominent players in Bright Star in Egypt a few months ago. We sent both B-1s and B-52s to Spain for three weeks to work with our allies all over the continent in a variety of operations.

They train continually to project global power. Quarterly, crews from each bomber wing fly 20-30 hour training sorties. They cross oceans to strike targets in Asia, Europe, or the Middle East, and return home. These missions do two things. They train our people for the type of missions that they would fly in the opening hours of war, and they show both our allies and potential opponents that America's military presence is not tied to our overseas forces alone.

Although the majority of our bomber force training focuses on conventional operations, they are still an important component of our nation's nuclear capability. While it is no longer the centerpiece of combat air operations today, it remains a vital mission area and one that we tend carefully.

The danger of nuclear conflagration has abated dramatically, however, with 25,000 nuclear weapons still in the former Soviet republics, and more nations achieving nuclear delivery status, we must maintain a large and strong capability to deter and respond.

ACC fulfills a very important commitment to the United States Strategic Command. Our bombers provide approximately one quarter of its initial strike capability and 40 percent of its survivable weapons.

Numbers alone do not convey the importance of bombers in this area of operations. Moving bombers to alert status or forward conveys the seriousness of our intent in a way that ICBMs and sea-launched missiles cannot. Bombers are the visible component of deterrence.

But the most important test of our bomber force's value is the part they play in the new national military strategy which was defined this past year. Our bomber force is critical to our ability to deal with two major regional conflicts, occurring either back-to-back or overlapping one another.

These long-range, high-payload aircraft give us the freedom to act without compromising the element of surprise and without risking the lives of many Americans. They give our nation the ability to act swiftly without putting our allies in an untenable position. Flying from bases in the United States, they can reach any point on the globe in less than 24 hours. They give us a means to take back the initiative and begin to dictate the terms of the engagement no matter who has chosen to challenge us.

Within hours, with appropriate munitions and other support, bombers can attack an opponent's most threatening means of destruction -- his nuclear, chemical, and biological weapons. They can blind him by destroying his command, control and communication facilities. They can begin the process of depleting his war-making might and his military forces.

All of these things could occur before American surface forces would be brought into play. As we gain forces and capability in the theater, our bombers would continue to prosecute the air campaign. B-2s would destroy our enemy's best-defended, high-value assets and our B-1s and B-52s would destroy the thousands of targets in less well defended areas.

The B-1 is our most flexible platform in this area. It can fly in packages with fighters and other aircraft designed to suppress air defenses. This reduces the B-1's vulnerability to attack, and more important, with B-1s included, these packages would have far greater firepower than if they were composed of fighters alone. But the B-1 will not be limited to package operations. Because of its speed and maneuverability, it could also attack targets alone in many cases.

Although our B-52s don't have the B-2's stealth or the B-1's speed, they are still very capable aircraft, and we would rely heavily on them. In the initial stages, B-52s would launch stand-off weapons to destroy critical strategic targets. After defenses have been suppressed, their high payload can be used effectively to deliver area submunitions and general purpose bombs. B-52s are also effective for laying land and sea mines and attacking enemy surface forces and fortifications.

The theater commanders ACC serves are learning quickly that bombers add flexibility, firepower, immediacy, and reach to nearly every phase of their combat operations. That is critical if we are forced to fight in a conflict spread over vast distances and attack widely dispersed targets. In many cases political imperatives and geography will preclude placing our forces along a future opponent's border prior to the outbreak of conflict. If this is so, the advantages of airpower's range will be all the more important. Regardless of where they are based, bombers will be able to attack a future enemy from any direction we choose.

At the onset of the second conflict, our bombers would respond first again. At this point, the enhancements we have requested from you become crucial. If a significant number of our aircraft are still engaged in the first operation, or were engaged in enforcing the peace after a conflict, our bombers become doubly important.

As hostilities escalate, I also expect the STRATCOM commander to draw on ACC's bomber force. Nuclear deterrence is only effective when we maintain a credible threat. Bombers on alert give us that credibility. Because bombers carry such a large payload and can cover vast distances with such great speed, the quality of the sorties they fly helps compensate for the lower quantity of aircraft that we will be able to swing to the theater at the onset.

This is where we will see the greatest pay-offs from our investment in stealth on the B-2, and this is where I believe we will gain the greatest advantage from the enhancements we are planning to make. The enhancements we are asking you to support will allow us to make the best use of our assets in a situation where our forces are stressed.

Prudent upgrades can give our national leaders and warfighting commands more and better options for dealing with a wide range of challenges. The most important enhancement we can make is to equip all of our bombers with precision guided munitions. There was ample evidence of the value of precision guided munitions in the Gulf War. Equipping our bombers with these weapons allows us to bring both quantity and quality to bear simultaneously.

Today the F-111, F-15E, and F-16 with LANTIRN are our most capable, non-stealthy precision platforms. They can carry between two and five PGMs depending on whether they are also carrying external fuel tanks. The F-117, our stealthy platform, carries two weapons. When the upgrades we have requested for the B-1 are complete, it will be able to carry 24 PGMs, and the B-2 is already programmed to carry 16.

Both of these bombers give us greater range than their smaller counterparts in the fighter force. That expands the options available to future commanders dramatically. In a short warning scenario, bombers may be the only assets we have to attack the enemy for the first few days. And with bombers carrying PGMs, commanders will be able to destroy more targets with fewer sorties from longer distances and risk fewer lives.

To make the most of our bombers, we plan to equip them with both point and area munitions. All three of our bombers will be equipped with two new point munitions: the Joint Direct Attack Munition, the adverse weather precision guided munition that we expect to begin fielding in 1999, and the Tri-Service Stand-off Attack Missile.

The B-1 and B-2 will also carry munitions designed for use against surface forces. They include the Sensor Fuzed Weapon, a cluster munition designed to destroy enemy armor with multiple kills per pass during the day or night and in adverse weather, and the Combined Effects Munition, an anti-armor and anti-personnel weapon with a fragmentation and incendiary warhead. Equipping our bombers this way will allow commanders to decimate advancing armor columns before American forces have been brought into an area.

It is also very important for us to improve the electronic countermeasures on the B-1. If a significant number of our specialized aircraft, such as those that suppress enemy air defenses, are still engaged in the first conflict, our bombers will operate alone. In the case of the B-2, this is normal procedure and you will see no difference in their employment. But we will have only a limited number of B-2s available.

The B-1 will be the workhorse of any operation of this nature. If it has fully capable electronic countermeasures, we will be able to use it more freely. With the improved electronic countermeasures the B-1 will be much more survivable when operating with or without support forces.

We also appreciate the opportunity you have given us to show that the B-1 is as sustainable as the B-52. We look forward to beginning the six-month operational readiness assessment of the B-1 wing at Ellsworth AFB, South Dakota, in June of this year. We believe this test will show exactly what is needed to ensure the B-1 can sustain the mission capable rates we need.

Because of this inherent capability, I believe that a relatively small investment now in our bomber force will bring us very high returns. Our bomber force already has the range, the speed, and the payload capacity to negate the barriers of time and space a potential aggressor would hope to use against us.

I do not want to leave you with the impression that one system or one upgrade is the panacea for all the challenges that we face in the two major regional conflict scenario. To maintain all of the capabilities we require, we will need to maintain some quantity of each of the three types of the bombers ACC flies today. Our ability to win quickly, decisively, and with few casualties, as the Bottom-Up Review and our defense guidance demand, depends on a great many interrelated factors.

One of the most important of these is how many aircraft we can deploy on very short notice. The analysis in the Bottom-Up Review called for the U.S. Air Force to deploy 100 combat capable bombers to a major regional conflict. As you know, it takes more than 100 bombers to ensure we have that many ready to deploy at any given time.

Like our other aircraft, we have bombers in several categories. Most are in an operational status for either wartime combat use, conventional and nuclear, or for the training of crews. Then we have a smaller number in the depot at all times for overhaul and modification, and a few in test status.

We also will not be able to equip all of our bombers with a precision-guided munitions capability until beyond the year 2000 because of the development and production times for the Joint Direct Attack Munition, the Tri-Service Stand-off Attack Missile, and the Sensor-Fuzed Weapon, and the achievement of full capability in our 20 B-2s. So, in the meantime, we have a gap in our desired bomber capabilities.

I believe our bomber force is well-tailored for flexible operations. They can move in and out of an area of responsibility quickly and join with indigenous forces or work alone if necessary. If we did not have this fleet of highly-capable, long-range aircraft, our current national strategy would demand that we create them. Fortunately our nation has the best bomber force in the world.

Although they were built in a different era, to counter a different enemy in a different kind of war, they have the characteristics that are most valuable to us today. They give us the ability to reach around the globe, strike fast, and strike hard. They are highly adaptable. They give us a wide variety of options for weapons employment and allow us to sustain operations from the continental United States if we must.

We can make the most of these very valuable aircraft if we make a comparatively modest investment in enhancing their capability, especially in terms of equipping them with precision guided munitions.

In closing, I'd like to thank the members of the committee for your long-standing support of our nation's defense and request your continued, future support for airpower adequate to meet our defense needs in a turbulent world.

Thank you.

BOMBER FORCE CAPABILITIES

Mr. DICKS. Because the schedule is long and we have a lot of questions, I want to start with this. One of the features that we discussed in the RAND presentation is the fact that with the B–2, there is the potential to be able to go in and interdict an invading division.

You have seen the RAND scenario. You have probably seen their charts and everything else. When you have the B–2, which is stealthy, long range, if it has Sensor-Fused Weapon or THAAD or some of the other smart submunitions, to me that is a very new, almost revolutionary conventional capability.

I am worried whether we can handle future contingencies with only 20 B–2s. I know that many others in the Congress share the same opinion.

This number of 20 was kind of grabbed out of the air. It just seems to me that one of the most important issues we want to discuss with you today is, given the limitations on the B–1 and on the B–52s in terms of conventional capability, given that we have only a few B–2s, is there a gap in capability? Are 20 B–2s enough to deal with two MRCs?

General LOH. Of course, Mr. Chairman, the B–2 is our most capable bomber and will be when we have all of them delivered in their full-up configuration.

We in the Air Force, as you recognize, sought more B–2s and I believe the reason that we settled on 20 was because we couldn't afford to buy any more given the fiscal constraints of a greatly downsized Defense budget.

They are clearly the most superior of the three bombers that we have in our inventory right now. In terms of dealing with a major regional conflict, we would use 16 of those 20 B–2s at the outset to attack the most heavily defended targets in a major regional conflict.

We would send all 16 probably to an initial conflict and they would fly high sortie rates against heavily defended targets.

We would also need to send a significant number of B–1s and B–52s, because I believe we need to send a hundred combat-coded, combat-funded bombers to deal with both the set of strategic targets that are necessary to take down quickly as well as the advancing forces that you mentioned in your question.

Mr. DICKS. You could send them, but they would have to operate with fighter aircraft; is that correct?

General LOH. The B–2s would not have to.

Mr. DICKS. The B–2s could operate autonomously, we assume. But the B–1s and B–52s would have to have fighter escorts?

General LOH. Our plan is to use the B–52s from standoff ranges outside of enemy defenses launching standoff cruise missiles against tough targets. Our plans for the B–1 would be to only use it against medium threat targets that it can handle with its ECM and low altitude and high speed and terrain masking initially and then later, after defenses are suppressed, both the B–1 and the B–52s would be able to sustain high payload operations.

Mr. DICKS. One of the limitations the RAND people emphasized is that we don't have a long-range conventional cruise missile. We have HAVE NAP, which I understand has about a ——— range, and in their opinion, it is important to have a cruise missile for the B–1 or B–52s, which had a longer range.

Do you agree with that?

General LOH. I agree that we need a conventional cruise missile for the B–52s and we would adapt it to use on the B–1 as well. We do have a few HAVE NAP weapons. We can modify additional air-launched cruise missiles for conventional capability of the type that we used at the outset of the Gulf War with the B–52s from Barksdale, so we have the potential of modifying more air launch cruise missiles for a conventional capability. That is not in the budget now.

We do have in the budget, of course, the continued development of the Tri-Service Standoff Attack Missile that has a significant standoff range that the B–52s and the B–1 can use and we intend to integrate it on all three of those bombers. So we have plans to have sufficient standoff cruise missiles to handle this regional conflict situation.

Unfortunately, they don't come into the inventory in any large quantities until many years downstream.

Mr. DICKS. Seems to me that with this GATS/GAM proposal, it takes us until 1996 or 1997 just to get that PGM capability. But on the B–1 it takes to the year 2001.

General LOH. That is what I mean by a gap in our desired capabilities. We need to equip our bombers with Precision-Guided Munitions.

The JDAM Program will do that very effectively. It just went on contract last week, but it will not deliver its first production weapon until February of 1999, which is a five-year development program.

We probably, given its delivery schedule, won't have sufficient quantities of that weapon until 2002 to be able to prosecute the kinds of operations that we have been talking about with precision capability on either the B–1 or the B–2. So there is a gap in being able to achieve Precision-Guided Munitions just because of development time for JDAM and building up our inventory sufficiently to handle the number of targets that we have to handle with bombers.

In the meantime, we will have to use general-purpose bombs and our area munitions like the Combined Effects Munition to handle those kinds of targets.

BOMBER FORCE LEVELS

Mr. DICKS. Now, Secretary Perry said that the department was going to take another look at the number of bombers, that there had been quite a bit of discussion between various Committees on the Hill and other knowledgeable people that going down to 107 bombers in 1995, may not be the right number; that we might need more because of this concern that we are in this transition period.

Have any decisions been made at this juncture?

General LOH. I have looked at the numbers of bombers that we have planned, and as I mentioned in my statement, when you add up those that we need for combat operations, both conventional and nuclear, and those that we need for training, because we will continue to train aircrews back here in the States, as well as having a number in depot status and test status, then I also come up with a need for more than 107.

For example, if I were to try to deploy a hundred bombers in 1995, fiscal year 1995, I would have to use all of the B–52s and B–1s that I have funded, including those that I would want to keep back here for training, 20 back here for training.

I would have to send those to a conventional conflict. Then I would not have any that the Commander of Strategic Command might want to reserve for nuclear operations or keep in an operational reserve back here with fresh crews for a second conventional operation.

As I mentioned, I wouldn't have any for training and some of those could be in depot for periodic maintenance. So I come up with a need for more than 107 and I have discussed that with General McPeak and Secretary Deutch and they agree that we need to try and find a way to restore some B–52s and B–1s back into our program so that we have enough to handle all of the situations that I just described.

Unfortunately, that restoration doesn't occur until after 1999 because we can't find a way to fund it between now and 1999 given the other demands on our budget. But we do have a plan to restore some B–52s and B–1s back to operational status beyond the year 1999, which then——

Mr. DICKS. We are not going to do it until 1999?

General LOH. After 1999, because we don't have the funding available within the Air Force budget to deal with that between now and then.

Mr. DICKS. So you are going to let the number go down to 107?

General LOH. Yes. That is the plan right now. For 1995, we would have a total of 107 and that includes 7 B–2s that I am not yet prepared to send into a high-threat area because it is not—it doesn't have all of its capabilities, all of the capabilities in the B–2 won't be available until around the end of the decade so that we are really talking about a 100 to 110 airplanes over the next 3 or 4 years.

That will be the maximum number we could deal with for all these situations, the major regional conflict, a nuclear reserve, training and depot and test.

Mr. DICKS. And it is your testimony that you would need that entire 100 bombers just for one major regional contingency; right?

General LOH. That is the direction we have in the Bottom-Up Review and then the defense guidance is to deploy 100 to a conventional operation. Those 100 are manned at peacetime crew ratios and peacetime spare parts, so if I deploy 100, then you may not be able to fly all 100 at higher rates that are required in wartime; so those that could fly at higher rates might be slightly less than that.

Mr. VISCLOSKY. Is that 100 per contingency or is that for both?

General LOH. Our plan would be to send 100 to a single major regional conflict and then if there were another one back to back, say, my analysis that I have done shows that we would swing about half of those, perhaps 52 of those to a second regional conflict and to begin to deal with that one.

We would have to swing bombers from one conflict to another. We can't deal with a second conflict without swinging a significant number of bombers, B–1s and B–52s in this case, from the first conflict to the second.

Mr. DICKS. If you had the Korea-Iran situation for two MRCs, assuming Korea was first, you would have 48 bombers to deal with Korea and 52 bombers to deal with Iraq?

General LOH. This assumes that I could get all 100 to the Pacific theater. Some would be in depot and I would want to keep some for training.

Mr. DICKS. So it would have to be a number less——

General LOH. The number is 80 in actuality, the combat, coded number of those number of B–1s and B–52s is 80 and the other 20 are used for training. So I am likely to be able to deploy 80 B–1s and B–52s to the Western theater and I would roll 50 of those over to the second theater after the situation stabilizes.

It needs to be nearly back to back. It can't be a significantly overlapping conflict.

Mr. DICKS. Let's take the Iraq situation—you would have to then lead with say the 117s and your other aircraft to go in against those heavily defended deep targets?

General LOH. In the second scenario, Mr. Chairman?

In the first one, we would send all of the F–117s and we would also swing those to the second war, those most highly capable fighters like the F–117s with their stealth capability and some of the F–15Es and F–111s that have a long-range and a precision weapons capability would also swing from one scenario to another, a total of about 50 bombers and perhaps another 50 or 60 fighters in order to stabilize that situation because we have sent all those aircraft to the first conflict and what is remaining are fighters that don't have stealth or precision guidance capability back in the States.

Mr. DICKS. So the decision of the administration is that they are going to correct this bomber problem, this shortage of bombers, but not until 1999?

General LOH. Well, we would like to be able to restore bombers earlier than that.

Mr. DICKS. But you don't have the money.

General LOH. We don't have the funds and in actuality because of the development time of JDAM, for example, we won't have the weapons available until after the turn of the century as well. So that is why I describe this as a gap in capabilities, because we don't have sufficient Precision-Guided Munitions to equip the additional bombers, even if we could buy them back earlier.

We would use them clearly and we would send them, but with less capable munitions.

CONVENTIONAL CAPABILITY FOR B–1S AND B–52S

Mr. DICKS. Is there anything we can do in the short term to improve the capabilities of the B–52s and the B–1s, General?

General LOH. Well, we are putting the conventional capabilities on the B–52s and we are trying to accelerate that. We will have it capable of launching the Harpoon missile by 1997 and JDAM as soon as that becomes available in the inventory around the year 2000. So we are trying to get those 40 B–52s equipped as soon as we can.

The upgrade of the B–1 will take a significant amount of time and it is funded. We have funded it for 72 B–1s. But again, we won't have the weapons capability for it until JDAM becomes available around the turn of the century.

Mr. DICKS. Do you think we ought to convert some ALCMs?

General LOH. We ought to look at converting some ALCMs to a conventional capability. It is relatively inexpensive and does give us a standoff capability for the B–52s, which would be useful.

Mr. DICKS. Mr. Wilson?

BOMBER FORCE OPERATIONAL STATUS

Mr. WILSON. I am just going to make it real simple.

Given all the circumstances that we have, the limitations that we know we have, the obvious fact that we don't have enough bombers, what would be your personal recommendations to the committee to solve the shortfall?

General LOH. Well, as I mentioned earlier, we do have a plan that will restore some of the bombers back, but unfortunately we are unable to fund that over the next five years.

Mr. WILSON. You have a plan to what?

General LOH. We have a plan to restore B–52s and B–1s to operational status. They will be in a reserve status from 1995 through 1999 and then we have a plan to restore them to operational status to get our total fleet number up to about 180 bombers, including those in backup status.

But we can't afford to do that under the current budget conditions until that time.

Mr. WILSON. That is what I thought you would probably say. Can you tell us what the cost would be to achieve that solution, to restore the B–52s?

Mr. DICKS. If we wanted to do it now. Say Congress said, "We will give you the money."

General LOH. A reasonable estimate to restore or buy back a squadron's worth of either B–52s or B–1s—that would be 12 aircraft—is on the order of $110 million a year in O&M funds.

Mr. WILSON. You can do 12 for $110 million?

General LOH. Approximately; yes, sir.

Mr. WILSON. Is that B–1s or B–52s either one?

General LOH. Yes, provided they are maintained in a reserve status with them in a flyable condition.

Mr. WILSON. Mr. Chairman, that is pretty cheap.

Mr. DICKS. So you could get 48 additional planes for about half a billion dollars?

General LOH. That is a reasonable estimate; yes, sir. That does not include the cost to upgrade those planes with a conventional capability, but we already have that in our budget for the B–52s and for 72 of the B–1s.

Mr. WILSON. So if this committee found half a billion dollars for you, we could come up with 48 more bombers?

General LOH. That is correct.

Mr. DICKS. That would be for the Active force. If they were in reserve status, they could then be activated; right?

General LOH. We do intend to put some of our B–52s and B–1s in the Reserve, but you don't gain a significant cost advantage in the Guard and Reserve. They still have to be flown. They may be flown at slightly lower rates so it may be a slightly lower cost, but I don't consider it to be significant.

Mr. WILSON. How many B–1s are either in inactive status or scheduled for inactive status?

General LOH. In our 1995 budget, we have—we pay for the operations and maintenance of a total of 60 B–1s. That is 48 that would be capable of going to combat immediately and 12 that we reserve for training of air crews. That is a total of 60.

We have 95, so the remainder of those would be in a status that I describe, either in depot for modification or upgrade or would be in a reserve status; we call it an attrition reserve status.

Mr. WILSON. Changing the subject—that is a very enlightening answer, General. I didn't realize that we could solve the problem—that much of the problem with that little money, really. I am sure we will give it very careful consideration.

HAVE NAP MISSILE

How important is the continued acquisition of HAVE NAP to deal with near-term deficiencies? I guess that has to do with how many B–52s you are going to have flying.

General LOH. We have a few HAVE NAP missiles today.

Mr. WILSON. How many?

General LOH. I can't give you the number. Our plans are to move to more capable standoff missiles like the Tri-Service Standoff Attack missile in order to deal with the need for cruise missiles on the B–52s, and so we don't have current plans to increase the quantity of HAVE NAP.

Mr. WILSON. Isn't HAVE NAP—I might have misunderstood one of the other testimonies earlier—isn't HAVE NAP the best thing we have in the ———mile range?

General LOH. Yes, it is, and it is a fine missile, but we need a greater range than that for most of our operations in the situations we are talking about, so it does have limited capability.

Mr. WILSON. Do we have any new HAVE NAPs in this budget or do you know?

General LOH. I don't believe we do, but I will get back with you on that.

[The information follows:]

Presently, there are no new HAVE NAPs (AGM–142s) in the FY95 President's Budget.

B–2 STATUS

Mr. WILSON. Of course, back to the chairman's questions and comments, you have had the B–2 for three months. How is it doing?

General LOH. It is flying quite well. It is flying very well. It was programmed to—let me get you some specific information here—we have flown it for 54 hours. We have flown it on 21 sorties, which is above our planned flight rate. We are flying it regularly.

We haven't had any major problems with it. We only had one what you might consider a significant problem where we had a little problem with the landing gear door; turned out to be very minor.

We have not had any problems with the B–2. It is flying well. We are getting good training on it, we are looking forward to receiving the rest at three-month intervals.

At the end of 1995, we will have seven airplanes and we are pressing on with the B–2 program as doing very, very well. It is a great airplane.

Mr. WILSON. That is good news. We had a lot of problems with the B–1 at first and we are apparently not having those with the B–2. Is that safe to say?

General LOH. We haven't seen any and we have been flying it for over three months now.

Mr. WILSON. Can you tell us what the range for the Harpoon is?

General LOH. I don't think I can. I can give that to you, sir.

[The information is classified and is retained in the Committee files.]

Mr. WILSON. Thank you, Mr. Chairman.

Mr. DICKS. Mr. Visclosky.

NAVAL ROLE IN STAND-OFF ATTACK

Mr. VISCLOSKY. Thank you, Mr. Chairman.

Thank you very much, General. You have touched on the importance of weapons as well as the number of bombers. There has been a lot of talk about precision type of munition, deep penetration.

What role does the Navy play in this from 2 perspectives; one from their carrier-based flights, and from the attack submarines and the use of the Tomahawks.

I understand a lot of naval aircraft are being upgraded as far as use of precision munitions. What role are they playing and are your figures based on an active role for the Navy in these scenarios?

General LOH. In the modeling, we use all the forces that are available from all the Services for these kinds of conflicts including T–LAMS, Tomahawk missiles in the Navy and the Navy attack aircraft.

Bombers have some very unique capabilities in that they can go a long way rapidly and provide a sense of immediacy with high-payload attacks to be able to attack critical targets very early in a campaign and T–LAMS have that capacity also if they are within range.

Once land-based and sea-based forces deploy into the theater, we use all those assets so it isn't an either/or situation with regard to use of bombers and T–LAMS and land-based fighters and sea-based fighters.

We work together. We need all in order to handle this very stressing scenario that we have been given.

Mr. VISCLOSKY. You mentioned specifically about a hundred bombers for that first regional contingency. What would you be looking for in numbers of naval aircraft with precision weapons; how many submarines equipped with Tomahawks?

General LOH. In the scenarios that I ran, we were able to deploy four carrier battle groups to the first regional scenario and then four to a second one for a total of eight operational carrier battle groups. That is considering a twelve carrier force because the others are in training and work up.

The Navy may consider that to be plus or minus one too few or too many, but I think that is about right. We modeled the naval contribution to this and the work that we have done in Air Combat Command.

Mr. VISCLOSKY. What about submarines in the equation?

General LOH. We used the submarines that launched the Tomahawk missile, the T–LAM missile, but I don't believe we played other forces directly. I am not sure.

Mr. VISCLOSKY. Are you saying you didn't factor into the submarines then?

General LOH. I am not sure that we did or not. I will have to get back to you on that.

We employed the force that was described in the Bottom–Up Review as being the decisive force for a MRC for all services; land-based air, sea-based air, naval and Army forces. If that included submarines, then we did model them.

Mr. VISCLOSKY. I think it would be an important question and would appreciate a specific answer in terms of whether submarines were factored into the equation for the hundred bombers or not.

If they were, to what degree?

[The information follows:]

Our analysis of two MRC scenarios included the overall contribution our Naval forces would make in the land and air campaigns. The Navy force list we modeled contained four Carrier Battle Groups in each of the two scenarios. Each of these Carrier Battle Groups normally includes two Los Angeles II class attack submarines for a total of eight submarines per scenario. While our study did not break out the specific impact of submarines separately, we used a factor of 100 Tomahawk/TLAMs employed by each of the 4 Carrier Battle Groups for a total naval contribution of 400 Tomahawk/TLAMs in conducting the joint campaign of each scenario.

Mr. VISCLOSKY. Looking at it from my perspective and having to make dollar decisions, the Navy is coming in talking about attack submarines and their utility in brown water and littoral areas and regional conflicts and that we have to continue construction of these because of their contribution.

We are having a serious debate about the lack of bomber penetration and if that is based on the available submarines or not there is a key component because people say we don't have enough. If you are not using the subs in the equation, it is a different equation we are looking at.

I have a number of questions on the future of your strategic bomber role——

Mr. DICKS. Go ahead. We have a little time here.

FUTURE ROLE OF STRATEGIC BOMBERS

Mr. VISCLOSKY. General, if I could ask, what do you see the strategic bomber's role in the future?

General LOH. Well, I believe that the bombers play a very critical role in our nation's future defense, even more so now than perhaps before, because, as we become more of a home-based force, with very few in-place forces around the world, and yet have the responsibility to project power quickly, rapidly, with massive force, the bombers make a unique contribution in that scenario.

So I believe they are extremely valuable and, consequently, we need to upgrade them with this precision weapons capability and we need to equip them with sufficient Precision-Guided Munitions to be able to handle the most pressing scenarios that we have.

In our analysis of——

Mr. VISCLOSKY. I want to make sure. What I am looking for is the balance here on their usefulness as far as nuclear strikes and the question of withholding a certain number of bombers for that particular mission relative to a commensurate role on an MRC.

General LOH. No one knows how all that will unfold so we need to plan for several situations. But as I discuss the nuclear part of the bomber mission with the commander-in-chief of strategic command, he would say that he needs a significant number of bombers to perform his mission, whether or not that is in conjunction with conventional conflict or not is something that perhaps the nuclear policy group can look at.

But in order to perform his mission, he does have plans to use a significant number of bombers.

In the future, our nuclear——

Mr. VISCLOSKY. Are those set aside now? Are those fenced off, if you would?

General LOH. They are included in these numbers we have been talking about.

Mr. DICKS. No.

Mr. VISCLOSKY. They are not.

Mr. DICKS. This same bomber force is supposed to be there for a strategic mission as well as potentially available conventionally. Same 107 bombers.

Mr. VISCLOSKY. And you, today, do not have any nuclear capable bombers in Europe?

General LOH. Oh yes, today we do have B–52s that are nuclear capable and some B–1s are part of our nuclear force. Later on, in a few years, we will go, in accordance with our START agreements, we will revert to purely a conventional role for the B–1, but we will retain a nuclear capability in the B–52 and the B–2.

Mr. VISCLOSKY. But those are not fenced off currently?

General LOH. No.

Mr. VISCLOSKY. They are not dedicated for that specific purpose.

General LOH. They will be used in dual missions, conventional and nuclear.

Mr. VISCLOSKY. Are there any numbers that the strategic command says they will need if situations in Russia, for example, significantly deteriorated?

General LOH. They have some numbers, sir, that they would need to fulfill their current responsibilities, but they are classified.

Mr. DICKS. We cannot get into that today.

General LOH. You can get them in a classified session.

B–2 INDUSTRIAL BASE

Mr. DICKS. Let me ask this, General. What bothers me is we are going to have 20 B–2s. We have this production line that is open out there, and yet, for some reason, I don't get any sense of urgency on the part of the Air Force about protecting this industrial base.

The Navy is trying to protect its submarine base and it is protecting its aircraft carrier base and I think that is probably pretty good judgment, if you can do it.

What bothers me the most here is I see this tremendous potential with the B–2 in conventional warfare, with smart sub munitions, and I think 20 is not enough.

It bothers me that when you have this kind of potential capability and these are the kind of scenarios that we are more than likely going to be faced with. Why is it we are not willing to step up to getting the right number of B–2s, which is not 20?

General LOH. Well, let me answer that by saying I do believe that we need to maintain an industrial base in this country to design, manufacture and produce bomber-type aircraft. I believe that is very important. I further believe it is a relatively unique capability because of the manufacturing technologies involved, the materials and the material processes involved, the large composite structures involved, the technology associated with some of the electronics, and so forth, that it is not the same as building commercial, large commercial aircraft; nor is it the same as building smaller fighter stealthy aircraft.

So I believe this is a relatively unique capacity that only this nation enjoys and that we should retain it. I don't know when we could find the wherewithal to procure additional bombers. That is the problem that we are faced with.

I do think, also along the same lines, that if we recognize the importance of bombers to the future, and I tried to portray that here——

Mr. DICKS. Right.

General LOH [continuing]. And if we can agree on a number that we think we need, and depending upon how many you would have for a conventional operation, for nuclear, for training and tests and so forth, then we ought to be seeking an acquisition strategy, a long-range acquisition strategy for the acquisition of bombers.

Mr. DICKS. Right.

General LOH. Similar to other high-cost systems like submarines or even carriers, where you base that strategy on replacing them over a long period of time rather than trying to buy them in bunches, as we have done with other aircraft like fighters, and that is going to become increasingly more difficult, for example when the B–52 goes out, to try to buy whatever could be made available.

Mr. DICKS. And we have learned one thing—that it costs a lot of money to build a new bomber, to do all the R&D and start from scratch. So if we let 5, 6, or 10 years go by and we have to start over and start a new program, you are going to have to invest a huge amount in R&D to get you back to where you were today to produce a few more bombers.

I think this capability has been undervalued in the Pentagon. I think there was a decision made and we cannot afford any more; we are going to stop at 20. I do not think it was well thought out.

Jasper Welch did a study, 40 to 60, somewhere in that range, he says, is probably the right number. Basically, RAND said the same thing before you testified today; that in all these scenarios they ran, you would be far better off with the kind of capabilities you are seeing with this plan to have 40 to 60 B–52s.

Now, let me ask you, in your personal and professional opinion. If you could do it, if you could get them, would you not prefer to have 40 to 60 rather than 20?

General LOH. Mr. Chairman, let me just say that as I go back a few years on the subject of the acquisition of the B–2, and I have been involved——

Mr. DICKS. We finally got the cost down.

General LOH. Well, I have been around for a while. I was the commander of the Aeronautical Systems Division that was responsible for its development for a period of time and I was in the Pentagon when some of these debates were taking place. There is no question but that the Air Force wanted more B–2s, wanted more than 20, but it really did come down to a question of affordability and what could provide a significant capability.

Twenty B–2s can still provide a significant capability.

Mr. DICKS. Right. We heard that this morning.

General LOH. And I certainly need those 20 and I will make maximum use of them. It is a significant capability with 20. But, again, I just come back to the point that it was an affordability question in an era of competing demands and it was decided to stop at 20.

Mr. DICKS. Well, as we come down to a smaller and smaller force, as we bring that force back into the United States, then it seems to me that you have the potential here, with a system that has worldwide reach, stealthy, it can operate autonomously.

You and I sat here and had the same discussion about how effectively those F–117s were and how could they operate autonomously, 8 of them, instead of having to have a huge number of planes, 60 some planes in a package to go in with the other one. They could not defeat the target. Had to come back out.

And then you get a B–2 that has eight times the capability of an F–117, which could also operate autonomously and go in with suppression and take out those early targets. I think it is the kind of conventional war-fighting capability that this country has undervalued.

I think the debate up here on Capitol Hill has been irrelevant. We have been talking about everything except the capability, and that is the only reason I feel so strongly about this. And I know Mr. Murtha feels very strongly about it as well. That, if we do not do something this year, if we do not put in the $150 million to keep the potential for the industrial base alive, that we are going to, in essence, give up this option.

And it bothers me as an American, as a Congressman, as someone who has followed this issue, because I just think it is an extraordinary waste. We can now get the cost down to where we can afford this thing and now we are going to quit.

So I know you are in a tough spot. I have tried to make it as difficult as I could for you, but failed.

We are going to go vote and then Mr. Pomeroy will talk to you, so we will come right back.

[Brief recess.]

BOMBER FORCE INVENTORY

Let me ask you—go back one minute. Go through each leg of this bomber for us and just give me these numbers again. Where are we with B–52s in terms of the backup aircraft inventory, total aircraft inventory and primary aircraft authorization? I want to make sure I have these numbers right.

General LOH. In the case of the B–52 in the 1995 budget?

Mr. DICKS. Are we today at 64 and 75?

General LOH. Today? We are talking prior to 1995?

Mr. DICKS. PAA and then TAI.

General LOH. Today on the B–52 we have 64 that are PAA, and that includes those that I can send into combat today and those that are conducting training. Sixty-four. And then we have another approximately 30 that are not funded for operations and maintenance but are in this backup inventory category, about 6 that represent those in depot for periodic maintenance, and then there are another 24 that are in an attrition reserve category. But those are coming down significantly starting in 1995.

Mr. DICKS. So 1995, the numbers go to 40 and 47.

General LOH. So in 1995, the numbers go to 40 that you authorize for O&M called PAA; that is, 32 that are coded for combat and 8 that are conducting training; and then there is another, about 27 that would be in this combination of depot status and attrition reserve status that are not funded for operations and maintenance. Okay? That is the B–52.

Mr. DICKS. What about B–1s?

General LOH. Fiscal 1995 on the B–1, you are funding, you are requested to fund 60 PAA. That includes 48 that are coded for combat operations and 12 that are in a training, that conduct training, for a total of 60; and then we have a total of 94, or 95 B–1s on the ramps. So the remainder of those 34 are those that are in depot status or attrition reserve.

Mr. DICKS. Tell me what attrition reserve means?

General LOH. Well, there is a category of aircraft called attrition reserve that are procured to replace anticipated losses due to peacetime accidents or wartime attrition. Aircraft in this status will be funded for upgrades, modifications and for periodic maintenance so that, in fact, we fly them but you do not authorize or appropriate the funds to give them air crews or ground crews or flying hours and operations and maintenance.

Mr. DICKS. Is this where we are going to go in 1999 to bring back the——

General LOH. Yes, this is the aircraft.

Mr. DICKS. That will come out of attrition reserve back into the active?

General LOH. That will come out of attrition reserve and would be restored to operational service. We will, in fact, fly those aircraft in the meantime, so we will be flying each of the B–1s and B–52s less than if we did not have that category.

Mr. DICKS. In a crisis they would be available?

General LOH. We do not have ground crews or air crews for them or spare parts.

Mr. DICKS. How long would it take you to get that?

General LOH. That is part of the restoration program. We can achieve that probably in 12 to 24 months, depending upon the time it takes to procure spare parts and train crews.

Mr. DICKS. So you are going to start doing that in 1999, and then when you start it will take 12 to 24 months.

General LOH. Our plan would be to start that probably in the year 2000, perhaps a little in 1999, but I believe it is 2000 and beyond.

Mr. DICKS. So that will take 12 to 24 months after you start to bring those back.

General LOH. To full service.

Mr. DICKS. To full service. Now, one other thing came up with the RAND people besides the weapons, which we have gone through. They are called racks?

General LOH. Yes.

Mr. DICKS. This is supposedly another limiting factor on the conventional capability. What has to happen there?

General LOH. Let me see if I can find that information, Mr. Dicks.

We have conventional bomb racks for the B–1. The number of conventional bomb racks we have for the B–1 is 99, and we would typically use two, one in each bay, for the B–1. We could use three, but our normal procedures would be to use two. Each of those conventional racks can carry 28 bombs.

Mr. DICKS. These are the——

General LOH. They can be transferred from aircraft to aircraft. It takes time to do that but they are not dedicated to a single aircraft. They can move from aircraft to aircraft.

Mr. DICKS. We need bomb racks for the B–52s?

General LOH. We will have as part of the upgrade program on the B–52 the capacity to fully equip 47 B–52s with a full conventional capability and enough racks to do that in the case of the B–52.

Mr. DICKS. Now, these are for the smart bombs? Or are these for conventional dumb bombs?

General LOH. These are for conventional cruise missiles and for general purpose weapons and for smart direct attack munitions like JDAM.

Mr. DICKS. Do we have these racks on the B–2s?

General LOH. The B–2, yes, comes equipped with these rotary launchers with these racks in it for conventional capability. That is funded in the program.

Mr. DICKS. All right, General, thank you. I am sorry we got started late, but we appreciate your testimony, and I must tell you we are concerned about this. The impression I get, we have a lot of time talking to each other, going back and forth to all these votes, is that the Members are concerned.

I wish there was a way we could bring on this conventional capability more rapidly and I wish there was a way to have more of the B–2 capability, but we understand the administration's position. I think Congress is going to take another look at this.

Thank you for being here.

General LOH. Thank you, sir.

Mr. DICKS. There will be additional questions for the record. The Committee is adjourned until 10 o'clock tomorrow.

[CLERK'S NOTE.—Questions submitted by Mr. Wilson and the answers thereto follow:]

HAVE NAP

Question. While a long range (100 nautical mile) stand-off precision guided munition is needed for the B–52 bomber, those munitions such as the TSSAM which are designed to provide this long range stand-off attack capability will not be available until the turn o the century. What munitions are we using to fill the stand-off attack capability for the B–52 in the near-term? Specifically, will more HAVE NAPs help solve the current deficiency in precision guided munition capability for the B–52 in the near-term when will the TSSAM become available?

Answer. The B–52H is already capable of employing the Conventional Air Launched Cruise Missile (CALCM/AGM-86C). CALCM provides B–52Hs with a standoff weapon to attack nonhardened targets. The AGM–142 (HAVE NAP) is providing the near-term standoff, precision guided munition capability until TSSAM becomes available later in this decade. The weapon has sufficient standoff to enable the launch platform to avoid point defenses (15———. A major constraint in the program is the limited missile inventory. More HAVE NAPs would help resolve current deficiencies in Precision Guided Munitions capability.

Question. It is my understanding that the Air Force currently has approximately 86 HAVE NAP missiles in its inventory and has modified 10 B–52Hs to be capable of carrying the HAVE NAP. How many HAVE NAPs can be employed on a B–52?

Answer. The B–52H will be able to carry three missiles and a data link pod or four missiles without a data link pod (in this configuration, another B–52H with a data link pod directs the launched missiles to their assigned targets). We are presently upgarding 10 B–52Hs to be HAVE NAP capable. Four B–52H aircraft will be modified by September 1994 for a HAVE NAP capability; the remaining six aircraft will be modified by September 1995.

Question. How does the Air Force plan to utilize its current arsenal of HAVE NAP missile?

Answer. The targets to be struck by the AGM–142 will vary for each major regional conflict scenario. The weapon, in its basic blast fragmentation configuration, was designed to attack high value, heavily defended (point defenses) fixed targets. These targets include: power production facilities; POL storage tanks; air defense systems; critical communications nodes; and command, control, communications, and intelligence (C3I) facilities. The penetrator variant (which employs the I–800 hardened warhead) provides the same precision capability against hardened structures. With the capability to employee either a TV or an imaging infrared sensor, any missile in the inventory can support either day or night operations.

Question. How many sorties by how many B–52s would it take before depleting the current inventory of HAVE NAPs?

Answer. The current HAVE NAP inventory is 86 missiles. This inventory size will permit the 10 B–52Hs modified to carry HAVE NAP with the ability to employ three missiles (single ship operations) each, on approximately 3 sorties, before the planned missile stockpile is consumed.

HAVE NAP

Question. Would the procurement of additional HAVE NAPs increase the conventional stand-off attack capability of the B–52 fleet in the near-term.

Answer. Yes. Increasing the HAVE NAP inventory would enable B–52 aircraft to conduct more precision attacks (day or night) against high value, heavily defended, hardened fixed targets from standoff ranges (outside of point defenses).

[CLERK'S NOTE.—End of questions submitted by Mr. Wilson. Questions submitted by Mr. Sabo and the answers thereto follow:]

AIRBORNE RECONNAISSANCE

Question. I understand the Air Combat Command (ACC) has developed airborne reconnaissance requirements in part from lessons learned during the Gulf War, and responding to post Cold War scenarios. In developing these requirements, I have been told ACC coordinated with users and the intelligence community to establish the need for broad area search capability, ultra-high resolution at long ranges, day/night imaging capability, and multispectral imaging. Is there enough money in the FY95 budget request, and in the outyears, to permit meeting these new requirements? Please provide details.

Answer. The acquisition program designed to satisfy the airborne reconnaissance requirements you listed was recently reviewed for fiscal stability and assessment and was cancelled. The Defense Airborne Reconnaissance Office (DARO), the OSD agency entrusted with consolidating airborne reconnaissance and surveillance programs, determined the program lacked adequate funding for development and production, and assessed it as a moderate risk if confined to the existing acquisition schedule. The alternative was to delay the program, double the cost, and achieve Initial Operational Capability (IOC) a decade from now. We concur with the decision to cancel the program. We are currently investigating the feasibility of upgrading existing sensors to achieve some of the capabilities the cancelled program was developing, recognizing we will have to compromise some of the robustness to accommodate fiscal reality.

Question. What are the risks of not satisfying these requirements, given our strategy of winning, with minimal casualties, in two major regional conflicts?

Answer. ———.

Question. How can we achieve advanced reconnaissance capabilities such as moving target indication, bomb damage assessment, detection of strategic relocatable targets, and defeat of camouflage, cover, and deception?

Answer. JSTARS, our highest priority targeting system, will allow broad area moving target indication. Additionally, we are pursuing two separate approaches to achieve an advanced reconnaissance capability. ———. The second approach is through research and development. The Reconnaissance and Surveillance Mission Area Plan, developed at ACC, looks at the next 25 years. We try to forecast our needs for tomorrow, and in doing so, communicate to our labs and industry a direction that we would like to pursue. Through DARO's Advanced Concept Technology Demonstration (ACTD) vehicle and an accelerated, streamlined acquisition process, we can deliver a better product quicker.

Question. Can you provide us information about how the Air Force is balancing its resources in terms of improving both radar based reconnaissance systems and developing advanced elector-optical technology?

Answer. The Air Force supports improvements to both radar and electro-optical based reconnaissance capabilities. Two Advanced Reconnaissance Support Program technology projects, one radar and one electro-optical, have been in development. However, neither is included in the FY95 Budget prepared by the Defense Airborne Reconnaissance Office (DARO) and as a result, both programs will be terminated. These funds will now be used to proceed with HAE UAV development.

Investment accounts for airborne reconnaissance sensor development are now managed by DARO. DARO is considering radar and electro-optical technology to support the High Altitude Endurance Unmanned Aerial Vehicle (HAE UAV, and called Tier II+). However, the thrust of this sensor procurement will be on low cost off-the-shelf hardware.

Question. How is the Air Force taking advantage of the improvements electro-optical systems can make in sensor discrimination?

Answer. Investment accounts for airborne reconnaissance sensor development are now managed by DARO. ACC advocates transfer of technology from the canceled advanced development sensor system to upgrade the SYERS electro-optical sensor. These upgrades improve range, resolution and geolocational accuracy, fulfilling most documented deficiencies at reduced cost. However, DARO has not marked funds for this purpose.

Question. Is the Air Force dedicating funds to address the need to collect high-resolution imagery at very long stand-off ranges?

Answer. Not currently. Program funding for the advanced development sensors and upgrade programs for existing sensors now managed by DARO have been diverted to UAV procurement. Because the UAV is planned to overfly the collection site, it may not require imagery at very long stand-off ranges.

[CLERK'S NOTE.—End of questions submitted by Mr. Sabo. Questions submitted by Mr. Visclosky and the answers thereto follow:]

HAVE NAP

Question. With the end of the Cold War, the Air Force had indicated that it plans to utilize our B–52 bomber fleet to perform a conventional bomber role using precision guided stand-off weapons. The Air Force is modifying 10 B–52s to carry the HAVE NAP air-to-ground stand-off attack missile (AGM–142). Seven retiring B–52Gs currently are HAVE NAP capable. On September 15, 1993, the U.S. Air Force Materiel Command announced the results of a follow-on evaluation of the HAVE NAP, calling the tests "tremendous successes, demonstrating the missile's superior performance" and noting that the HAVE NAP "exceeded performance expectations, with accurate impact and complete penetration" of the target. Taking into consideration DOD's plans for our remaining B–52 fleet, which conventional stand-off missile do we plan to mount on the B–52s in the near term?

Answer. In the near term—by FY95/4—ten B–52Hs will be modified to employ HAVE NAP (AGM–142). Four B–52Hs will receive an accelerated HAVE NAP modification by September of 1994. All B–52Hs can currently employ the Conventional Air Launched Cruise Missile (CALCM).

Question. What are the unique advantages of the HAVE NAP for B–52 conventional missions?

Answer. HAVE NAP missiles will enable our B–52s to destroy hardened high-value targets from standoff ranges with precision accuracy in day or night time operations. This precision capability complements the B–52s other standoff munition—the Conventional Air-Launched Cruise Missile (CALCM), allows our crews to accurately attack non-hardened targets from standoff distances well outside the range of theater defensive systems. Together, these weapons give theater commanders a broad spectrum of attack options essential in the initial phases of a conflict.

Question. As a result of current modifications, how many more HAVE NAP missiles will be needed to fully outfit those B–52Hs capable of carrying the HAVE NAP?

Answer. We intend for HAVE NAP to be an interim PGM weapon until we begin to field the TSSAM on the B–52 in FY96. The planned HAVE NAP inventory of 86 missiles will outfit the 10 B–52Hs scheduled for HAVE NAP capability sufficiently to permit them to employ three missiles per sortie (current configuration) on approximately 3 sorties before consuming the planned stockpile.

Question. Is DOD considering procuring additional HAVE NAP missiles to insure that the B–52 fleet is capable of carrying out the conventional bomber role in the near term?

Answer. Yes, we have considered procuring 300 additional HAVE NAP missiles, but the initiative is unfunded.

[CLERK'S NOTE.—End of questions submitted by Mr. Visclosky. Questions submitted for the Record and the answers thereto follow:]

BOMBER FORCE STRUCTURE

Question. General Loh, in the ongoing debate over the appropriate size of the nation's bomber force, confusion exists over the definition of the bomber aircraft inventory as it exists today and what it is programmed to be in the near future. Before we start questioning in earnest the Air Force's strategy to maintain an adequate bomber fleet through the end of the century the Committee needs a precise understanding of what constitutes the bomber assets you have under your command. What are the total number of B–52s, B–1Bs, and B–2s in the inventory today and what are programmed for fiscal year 1999? In your answer explain and define the terms of total aircraft inventory (TAI), backup aircraft inventory (BAI), and primary aircraft authorization (PAA) and provide the values of each for the respective B–52, B–1B, and B–2 fleets.

Answer. The table below lists the current (FT94/3) and projected (FY99/4) bomber force structure:

	FY94/3			FY95/4			FY99/4		
	B–52	B–1B	B–2	B–52	B–1B	B–2	B–52	B–1B	B–2
PMAI	64	84	2	32	48	7	32	48	16

	FY94/3			FY95/4			FY99/4		
	B–52	B–1B	B–2	B–52	B–1B	B–2	B–52	B–1B	B–2
BAI	6	8	0	4	6	0	4	6	2
PTAI	0	0	0	8	12	0	8	12	0
PDAI	1	2	6	1	2	6	1	2	3
ATTRITION	1	1	0	1	1	0	1	1	0
RR	23	0	0	29	25	0	[1]20	23	0
TAI	95	95	8	75	94	13	[1]66	92	21

[1] Projected Air Force force structure position prior to the outcome of the Nuclear Posture Review and FY96 POM.

The inventory categories used in this table are the newly approved JCS standardized terminology for aircraft inventory management. This new terminology is slightly different from what we have used before. The new category definitions are:

—Total Active Inventory (TAI): Aircraft assigned to operating forces for mission, training, test, or maintenance functions (includes: Primary Aircraft Inventory, Backup Aircraft Inventory, Attrition, and Reconstitution Reserve).

—Primary Aircraft Inventory (PAI): Aircraft assigned to meet the Primary Aircraft Authorization (includes PMAI, PTAI, PDAI, POAI).

—Primary Mission Aircraft Inventory (PMAI): Aircraft assigned to a unit for performance of its wartime mission.

—Primary Training Aircraft Inventory (PTAI): Aircraft required primarily for technical and specialized training for crew personnel or leading to aircrew qualifications.

—Primary Development/Test Aircraft Inventory (PDAI): Aircraft assigned primarily for the test of the aircraft or its components for purposes of research, development, test and evaluation, operational test and evaluation, or support for testing programs.

—Primary Other Aircraft Inventory (POAI): Aircraft required for special missions not elsewhere classified.

—Backup Aircraft Inventory (BAI): Aircraft above the primary mission inventory to permit scheduled and unscheduled maintenance, modifications, inspections and repair without reduction of aircraft available for operational missions.

—Attrition: Aircraft required to replace primary aircraft inventory losses in a given year.

—Reconstitution Reserves (RR): Aircraft stored or on the ramp which are designated for return to the operating forces in the event of mobilization, replacement or reconstitution.

Question. Explain how this classification scheme translates into the number of deployable, mission capable bombers you have available at any given time. What is this figure today? What will this figure be in 1999 under the presently programmed force structure?

Answer. A deployable bomber is one that will operate out of a forward base to support a theater CINC. These aircraft make up the bulk of our bombers force. The remainder of the force consists of dedicated training aircraft, aircraft at a depot for scheduled modifications, and flight test aircraft.

ACC currently has 72 B–1s and 58 B–52s that could deploy. This number makes allowances for units that are in the process of drawing down or standing up, such as the B–52 AFRES unit at Barksdale AFB, LA. These numbers are airframes only and do not reflect additional aircrews, spare parts, and maintenance personnel required to support sustained wartime operations.

In FY95 the number of deployable, combat bombers will be 80, 32 B–52Hs and 48 B–1Bs. Air Combat Command will have 7 B–2s, but they will all be used primarily for training toward IOC. They will not yet be ready for deployment.

In FY99, using the programmed budget, we will have 88 deployable bombers; 32 B–52s, 48 B–1s, and 7 B–2s. The B–2s will reach their full deployment capability of 16 in FY01 with the completion of the Block 30 modification.

Question. What is the present number of crews available to man each part of the bomber fleet today? What is the number planned for 1999?

Answer.

	Bomber Aircrews		
	Today	FY95	FY99
B–52	84	56	56
B–1	84	78	90
B–2	2	7	19

Question. Explain the concept of a crew ratio for the bomber fleet and how it effects the number of deployable bombers available?

	Bomber Crew Ratios		
	FY94	FY95	FY96
B–52	1.31	1.4	1.4
B–1	1.0	1.3	1.5
B–2	1.31	1.31	1.31

The peacetime crew ratio is limited by airframe availability and reflects the maximum each weapon system can support for training operations. The wartime crew ratio for bombers depends on both the number of sorties and the length of sorties they must fly.

Crew ratio does not directly affect the number of bombers that *can* deploy to support a warfighting CINC. The crew ratio *does limit* the number and duration of sorties that the bombers can fly from their deployed location to their targets. Higher crew ratios are required for a higher operations tempo and longer duration sorties. Therefore, at a given peacetime crew ration, the longer the sortie duration required or the higher the daily sortie rate, the lower the number of bombers that could be effectively employed during combat.

Question. What crew ratios are necessary for each element of the bomber fleet to enable the sortie generation required to fight two major regional contingencies (MRCs)?

Answer. Crew ratios do not depend upon the type of bomber; they depend on how they are used. Long duration strike sorties from the CONUS or outside the theater would dictate high crew ratios for sustained operations. Higher daily sortie rates per aircraft, like those possible where the aircraft are in theater, can also dictate high crew ratios. Our wartime experience in Desert Storm under both conditions required 2.0 crew ratios.

BASIS FOR BOMBER FORCE REQUIREMENT

Question. General Loh the Bottom-Up-Review (BUR) calls for an overall force structure that is capable of fighting two major regional contingencies (MRCs). The requirements of this scenario are also included in current defense planning guidance and supposedly have shaped the Department's proposed size for the bomber force. Please identify for the Committee the driving variables and assumptions dictated by the two MRC scenario that were used in determining the size of the bomber fleet as proposed in the present five year defense plan.

Answer. The BUR and Defense planners call for 100 deployable bombers to fight one MRC and this is the figure we used as the baseline in our analysis. We found that 100 deployable bombers was the minimum number we needed in a short-notice Southwest Asia scenario to stop the invasion in time to save the Saudi ports and oil fields. The requirement to deploy 100 bombers is based on the bomber's unique contributions of immediate response, massive firepower, and long range. In short-warning scenarios, where the U.S. has few pre-positioned forces, bombers are the primary source of early arriving firepower. In key phases of the conflict, such as stopping an invasion, bombers reduce U.S. losses by delivering massive firepower at the point of attack. When equipped with suitable weapons, bombers provide the range and precision to attack key industry and command and control targets deep in enemy territory.

Question. What are the most likely regions where United States Forces would be employed?

Answer. ———.

Question. In general terms what are the projected threat force levels that would be encountered in these regions in 1999 and the target set that would be faced by the bomber force?

Answer. ———.

Question. What are the mechanics involved in "swinging" the bomber force from one MRC to another in the event of two near simultaneous conflicts?

Answer. Swinging the bomber force will require forces to deploy from their operating location in the first MRC to a second theater of operations. The mechanics of swinging forces is straightforward. The aircraft would be flown by operational crews with the requisite refueling support. The remaining aircrews, maintenance personnel, support equipment, and associated unit support personnel would be loaded onto transport aircraft for movement to the new theater. The timing of the swing is much more complicated and would be dictated by the events in both theaters of operation.

Question. What planning assumptions do you currently make as far as warning time for one or two MRCs?

Answer. ———.

Question. What probability do you assign to two MRCs occurring simultaneously?

Answer. ———.

We obviously want to avoid being placed in a position which makes such a two MRC scenario more likely by opening a window of opportunity for potential aggressors. Such a window might open if our engagement in one region leaves little or no forces available to deter aggression in another. Clearly, the likelihood of two nearly simultaneous MRCs decreases if everyone knows we are prepared to handle both.

Question. How would bomber force allocation for two theaters work in this event?

Answer. In accordance with current planning, 100 heavy bombers are required to support a single MRC. The planners acknowledge that certain high-value aircraft, like bombers, will be required to swing to a second MRC. If required, we would swing all, or part, of a 100 bomber force to support a second MRC. The exact number would depend on the situation in both the first and second MRC.

Question. How is the current and proposed bomber force structure related to the actual CINC warfighting operational plans that exist today?

Answer. The most demanding bomber requirements are in CINCPAC and CINCCENT's areas of responsibility. These large geographic areas have few in-place forces. Currently, the ACC force structure can supply the number of bombers required by CINCPAC and CINCCENT's plans. As our military forces decrease, modernized bombers will play a larger and more vital role in an MRC. As this happens, we expect the CINC war plan requirements for bombers to increase.

Question. In your opinion does the presently programmed bomber force structure support the warfighting requirements as described in the BUR and defense planning guidance?

Answer. The BUR and Defense planning dictate a requirement for 100 operational bombers to deploy and effectively fight a single MRC. In FY95/4, there are 107 Primary Aircraft Inventory in the heavy bomber force, of these 80 would be available for deployment. By FY99/4, the program reaches 88 deployable bombers (including 8 B–2s). There is an Air Force program that will meet the guidance in the out years (beyond FY99) by buying back bombers. In the interim years we are accepting some risk while we upgrade our bombers with precision capabilities.

Question. What level of risk do you assign to the Department's current approach to bomber force modernization?

Answer. The risk of reducing the bomber force by placing aircraft into attrition reserve is moderate, because we do not meet the force structure specified by the BUR and Bomber Roadmap. This move is driven by our inability to fund their operations and maintenance in the near-term. This situation will reduce our ability to provide mass, firepower, and immediacy to the warfighting CINCs for the next five years in order to gain an upgraded bomber force at the end of this century.

BOMBER FORCE PRECISION GUIDED MUNITIONS CAPABILITY

Question. What was the total number of heavy bombers forward deployed to the theater during Operation Desert Shield/Storm?

Answer. At the peak of the air campaign, during Operation Desert Shield/Storm, we had 75 B–52s forward deployed to overseas locations—18 of which were actually deployed in the Kuwaiti theater of operations. The remaining were deployed outside the theater of operations.

Question. What percentage of total sorties during the air campaign did the bombers fly?

Answer. The bombers flew 1741, or 2.5 percent, of the total sorties flown.

Question. What percentage of total ordnance delivered was accomplished by the bomber force?

Answer. Bombers delivered 30 percent of the total ordnance used in the Gulf War. This percentage represents more than 72,000 weapons and more than 27,000 tons of ordnance.

Question. What was the primary target set that the bomber force was employed against?

Answer. During the first three days of the Desert Storm air campaign, the bomber force primarily attacked military communications sites, power generation/transmission facilities, airfields, and petroleum refinery target sets. Throughout the war, B–52s flew against a wide variety of target sets performing offensive counterair, air interdiction, and battlefield air interdiction missions.

Question. Describe the capability of the existing bomber force to deliver ordnance and/or precision guided munitions (PGMs) today. Describe this capability for each element of the fleet.

Answer. The weapons delivery capability of our bombers varies across the fleet. The B–52 can employ a wide variety of munitions, including "dumb" bombs, cluster bombs, and naval mines. Moreover, it can carry the Conventional Air Launched Cruise Missile (CALCM), giving it a standoff attack capability. In the near-term, the B–52H will acquire the ability to deliver precision guided munitions as well. Four of our B–52Hs will be modified to employ HAVE NAP by September 1994 and we will have a total of ten aircraft HAVE NAP capable by September 1995.

Today, the B–1 is able to carry the Mk–82, 500 lb bomb. In the 95 President's Budget, however, we have programmed modifications necessary for it to carry the full spectrum of standoff and precision weapons. We will outfit the aircraft with the Joint Direct Attack Munitions (JDAM) in 2001 and the Tri-Service Standoff Attack Missile (TSSAM) in 2004.

Today, B–2 Block 10 aircraft can deliver Mk–84 munitions. In the future, the B–2 could also employ test TSSAM assets using operational Block 20 aircraft in FY96 and the near-precision test JDAM assets using operational Block 20 aircraft in FY97.

Question. If called upon to perform missions in an MRC as described in the Bottom-Up Review, what types of target sets could the bomber force be used against today?

Answer. ———.

Question. As you know several programs are underway to develop and integrate precision guided munitions (i.e., JDAM, JSOW, and TSSAM) for use on the B–52, B1–B, and B–2. Explain to the Committee the increased effectivity to the bomber force that will result from these PGM integrations.

Answer. The two Major Regional Conflicts (MRC) scenario of the Bottom-Up Review highlights the capabilities of the bomber force with PGMs. Currently the B–1 and the B–2 have no PGM capability. The B–52H will have a limited stand-off PGM capability with the HAVE NAP and harpoon by September 94. If we had to fight a conventional air campaign today, we would not be able to use our bomber force in its current configuration against the heavily defended targets. The leverage created by the mass of bomber weapons is reduced without precision guide munitions and sensor fuzed weapons. The JDAM, JSOW, and TSSAM will give us the ability to attack a greater number of high value and heavily defended targets. Integrating these new weapons into our bomber force will improve sortie effectiveness. It will give us the ability to attack and destroy more targets per sortie.

Question. What is the impact of PGM integration on the size and composition of the total bomber force requirement?

Answer. The acquisition of advanced munitions—to include JDAM, JSOW, TSSAM, and CBU–97s, and their integration on bombers—will provide those bombers with the leverage envisioned by Defense planners.

Question. In your view should these programs be accelerated?

Answer. Not necessarily. Accelerating advanced munition integration by itself will not enhance our capability, because the current integration schedule is concurrent with the acquisition of the munitions themselves. To increase combat capability sooner by accelerating PGM integration would require accelerating the acquisition of these munitions. We should look at ways to achieve earlier integration of PGMs on bombers to reduce the gap in our bomber capabilities.

Question. What interim PGM capabilities should be fielded for the bomber force today?

Answer. Because of the unique force employment capacity of our bombers, the B–52s, B–1s and B–2s each have different requirements for an interim PGM capability.

With the retirement of the last B–52G, we are integrating both HAVE NAP and the Harpoon into the B–52H. We are accelerating the acquisition program to provide a limited capability to employ these weapons on ten aircraft by September 1995.

The PGM weapon of choice for the B–1 is JDAM. The 95 President's Budget, however, does not program JDAM for the B–1 until FY01 with no interim PGM capability.

B–2 Block 20 and 30 aircraft will employ production Tri-Service Stand-Off Attack Missiles (TSSAM) in FY99. B–2 Block 30 aircraft will employ production Joint Direct Attack Munitions (JDAM) in FY99. There are three options to provide an earlier B–2 limited smart weapon capability. First, the B–2 could employ the near-precision test JDAM assets using operational Block 20 aircraft in FY 97. Second, the B–2 could employ the precision tests TSSAM assets using operational Block 20 aircraft in FY96. Finally, the B–2 could employ a near-precision GPS–Aided Munitions (GAM) using Block 20 aircraft and limited production GAM munitions in FY96.

Question. Do you believe that planned inventories of PGMs in 1999 will be sufficient for the conduct of two near simultaneous air campaigns?

Answer. By 1999, we will not have reached our inventory objective of preferred weapons—such as GBU–24 laser-guided bombs and other precision-guided munitions—necessary to conduct two near-simultaneous air campaigns. The shortfall in PGMs and other preferred munitions, such as the Joint Direct Attack Munition

(JDAM), must be offset by the use of less desirable unguided weapons, such as Mk–82s and M–117s which are available in large quantities. The Air Force is programming funds to increase its inventories of PGMs into the next century.

FUTURE STRATEGIC BOMBER ROLE

Question. The Committee is aware that the administration is currently conducting a nuclear posture review to determine among other things what future requirement there is for the bomber force in a strategic/nuclear warfighting role. Describe the tradeoffs involved in withholding some portion of the bomber force to prosecute the SIOP and the ability of the remaining bomber force to conduct operations in an MRC.

Answer. Analysis performed during the Bottom-Up Review suggests we should plan to use 100 operational bombers for a major regional conflict and to be able to swing all or some of them to a second conflict should that occur. Of the 107 Primary Aircraft Inventory bombers in the FY95/4 force structure, approximately 80 platforms are available for deployment to a theater of operations. The remaining 27 aircraft are used for training replacement crews. Should circumstances dictate, we may redeploy aircrews, bombers, or both from the MRC and return them to CONUS to help meet our SIOP needs. As you know, we are currently evaluating our SIOP requirements as part of the Nuclear Posture Review.

Question. At what level of strategic requirement does it become necessary to procure additional bombers?

Answer. The requirement for U.S. nuclear forces is bound by START I and START II to specific warhead limits. The projected force of 47 B–52H and 20 B–2 bombers is within the allowable START II warhead limits. It is possible, within START II limits, for the U.S. to need more bombers than are in the FY 1994 budget depending on national guidance concerning the nuclear target base or a decision to maintain a nuclear withhold force. In either case, since additional nuclear requirements could be met by fully funding bombers already possessed; no new bomber procurement is required within the FYDP.

BOMBER FORCE OPTIONS FOR THE FUTURE

Question. What reviews or evaluations of the bomber force structure by the Department of Defense do you anticipate occurring that could lead to a revisit of the decision to go with the presently planned fleet?

Answer. The Department is presently conducting the Nuclear Posture Review (NPR). The NPR was established to examine the role of nuclear forces in U.S. security policy for the post-Cold War era. The goal is to recommend to the Secretary of Defense a revised nuclear posture policy, force structure, and supporting infrastructure. All of the current and planned bombers will be subject to the NPR. The results of the NPR are projected to be published this summer in time for the FY 1996 budget cycle.

Question. What revisions do you anticipate to the Air Force's Bomber Roadmap?

Answer. We do not anticipate any significant revision to the conventional improvements or near-term force structure planned in the FY95 President's Budget. Toward the end of the FYDP, we intend to restore manning and flying hours to some bombers, now being placed in attrition reserve to take advantage of the integration and procurement of advanced munitions. The Department of Defense could revise bomber force structure in response to the findings of the Nuclear Posture Review (NPR). The NPR could require more bombers, either for the nuclear target base, or to provide a nuclear withhold force. Planned bomber conventional improvements have been adjusted from the original 1992 Bomber Roadmap. These adjustments were made in response to fiscal realities and delays in the planned procurement of advanced munitions.

Question. What risks are incurred by allowing the industrial base for bomber production to disappear?

Answer. If we allow the bomber industrial base to disappear, we risk losing the technological expertise and manufacturing capability needed to maintain an adequate bomber force structure in the future. It will make future bomber acquisition technologically risky and perhaps unaffordable.

The primary concerns with losing the bomber industrial base hinge on four areas: critical manufacturing technologies and processes; the management and design teams; special manufacturing and assembly facilities, tooling, and test equipment; and the supplier base.

The special technologies and processes required to design and build large, stealthy composite structures are unique and will atrophy without a minimum level of activity. Although manufacturing large bombers is often thought analogous to building large commercial airliners, it is not. Likewise, the technology and many of the manufacturing processes used with the smaller stealth fighters like the F–117 are, in many cases, not applicable to larger bombers. Thus, we will lose much of the sunk costs and technological expertise we developed with the B–2, if we allow the bomber industrial base to shut down.

The management and design teams that integrate the complex components of large bomber manufacturing will also disappear without an industrial base. These management teams are the focal point of the effort necessary to assemble and integrate the various components and systems found on a stealth bomber. The special designs, technologies, and processes are produced and managed by highly trained team of experts. This group's skills are more unique, but just as perishable as those same types of teams that build our newest commercial airliners.

Equally important are the special facilities and tooling used to design, build, and test the special low-observable technologies we have incorporated into the B–2. The facilities we have for manufacturing bombers today are unmatched by any other country in the world. It will take a long lead time to regenerate this infrastructure once we give it up.

The final concern is the loss of the specialized supplier base that has developed the millions of sub-components that are the heart of the bomber. Like every other area, these suppliers move onto new production and services quickly, losing their work force and replacing their specialized tooling.

Given the potential cost and risk of trying to replace bombers after the industrial base has disappeared, some plan for low-rate, long-term production makes sense.

[CLERK'S NOTE.—End of questions submitted for the record.]

TUESDAY, APRIL 19, 1994.

COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C3I) PROGRAMS

WITNESSES

HON. EMMETT PAIGE, JR., ASSISTANT SECRETARY OF DEFENSE FOR COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C3I)

DEBORAH H. CASTLEMAN, DEPUTY ASSISTANT SECRETARY OF DEFENSE (C3I)

KEITH HALL, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR INTELLIGENCE AND SECURITY

MAJ. GEN. KEN ISRAEL, ASSISTANT DEPUTY UNDER SECRETARY OF DEFENSE FOR AIRBORNE RECONNAISSANCE

INTRODUCTION

Mr. MURTHA. The Committee will come to order. This morning we will hear testimony from the Honorable Emmett Paige, Jr., Assistant Secretary of Defense for Command, Control, Communications and Intelligence (C3I), Ms. Deborah Castleman, Deputy Assistant Secretary of Defense (C3I), and Mr. Keith Hall, Deputy Assistant Secretary of Defense for Intelligence and Security, and Major General Ken Israel, Assistant Deputy Under Secretary of Defense for Airborne Reconnaissance.

If you will put your complete statement in the record and summarize for us, we will proceed with the questions.

SUMMARY STATEMENT OF MR. PAIGE

Mr. PAIGE. Mr. Chairman and members of the committee, it is my privilege to appear before the committee to discuss the Department of Defense's fiscal year 1995 budget request for Command, Control, Communications and Intelligence, or C3I programs.

C3I systems are the combination of communications, warning, intelligence, command and information systems necessary for military decision making and force management. These systems provide the command and control foundation for optimal effectiveness of our forces.

Since information management activities, including our corporate information management efforts, are the principal subject of a number of other hearings, my presentation today will focus on C3 and intelligence matters, but I welcome any questions you care to ask about Corporate Information Management initiatives or management information automation issues or initiatives.

These are very important initiatives and their impact on how we manage the Department day to day, and how we will fight our forces are significant.

As we have moved out of the Cold War era, we are facing a series of C3I-related challenges which must be addressed.

We must achieve a more robust, more dynamic and more modern C3I infrastructure.

We must modernize our C3I capabilities to prepare for regional conflicts which will require highly mobile, light and lethal forces.

We must ensure that our C3I capabilities are more flexible and satisfy the needs of diverse users, as current and future operations will likely be worldwide, joint and involve coalition partners.

We must retain highly effective command and control systems that maintain a credible nuclear deterrent capability.

We must integrate military satellite communications, commercial satellite communications, and terrestrial communications into an integrated and interoperable infrastructure for the warfighting forces; and

We must implement an end-to-end information transfer capability which is protected, interoperable and cost-effective.

We can no longer give lip service or blow smoke. The time for action is long overdue. Rest assured that the Secretary, Deputy Secretary and I are totally committed to making real progress on this watch and institutionalizing the way for business to be done long into the future.

The fiscal year 1995 budget request is structured to meet these challenges. For fiscal year 1995, we are requesting $14.9 billion for C3 programs. This request may be divided into three major C3 mission areas: Defense-wide C3, Theater and Tactical C3, and Space and Nuclear C3.

Defense-wide C3 systems provide the long haul and common user communications, base-level information infrastructure, information security and national level communications needed for a seamless, secure, reliable and cost-effective global telecommunications infrastructure.

This global infrastructure supports the ready availability and transfer of information to meet military contingencies throughout the world and across the spectrum of potential military conflicts.

These systems are critical to DOD's readiness. Our growing dependence on automated systems, coupled with their vulnerabilities and increasingly complex and sophisticated threats, requires that a comprehensive Information Systems Security readiness program be established within the Department and we are working toward this end.

For the broad range of services provided by defense-wide C3 systems, we are requesting $4.8 billion in fiscal year 1995.

Theater and tactical C3 systems provide military commanders with the facilities and communications equipment necessary for managing conventional forces. The main objective of theater and tactical C3 systems is to ensure secure, survivable, interoperable C3 systems for joint and combined operations.

Given the emphasis on strengthening our ability to rapidly respond to regional conflicts, effective theater and tactical C3 capabilities are extremely critical. This is especially true as the size of the force structure decreases.

In support of this objective, we are continuing to acquire new theater and tactical C3 systems. For example, we are pursuing improvements to our combat identification capabilities. We are also continuing to improve the Airborne Warning and Control System

(AWACS) in the areas of radar range and reliability, identification, communications and navigation.

Similar improvements are being realized in our theater and tactical communications programs. Procurement and fielding of Single Channel Ground and Airborne Radio System (SINCGARS) radios is continuing with monthly production approaching 1700 radios, and full rate production by a second source has been approved.

In addition, pre-planned product improvements and system enhancements are being made to Mobile Subscriber Equipment and TRI–TAC equipment. For these and other theater and tactical C3 programs, we are requesting $5.2 billion in fiscal year 1995.

Space and nuclear C3 systems provide important capabilities in support of both strategic and conventional command and control. The nuclear C3 systems developed and maintained over the past 40 years have been a key ingredient in sustaining the credibility of our nuclear deterrence.

Consistent with a post-Cold War era, we are continuing to restructure, consolidate and downsize nuclear C3 assets. At the same time, we are moving forward with the satellite communication (SATCOM) systems needed to not only maintain command and control of our nuclear forces, but to also provide secure and interoperable communications for conventional warfare and to rapidly respond to regional crises.

Our forces must be capable of responding with speed and flexibility anywhere in the world. Space C3 systems provide an unparalleled capability to support this rapid, global response requirement.

As we pursue the force reductions and restructuring needed to respond to a new defense strategy, space systems will become even more important to C3 in the future.

A total of $4.9 billion is requested in fiscal year 1995 for our space and nuclear C3 systems.

The budget request for Tactical Intelligence and Related Activities, or TIARA, for fiscal year 1995 totals $10.4 billion. In line with a definition provided by Congress more than 15 years ago, the tactical intelligence programs supported by this request includes all sensor systems, processing and exploitation equipment and activities aimed at responding to the combat commander's needs for timely, accurate information on the battlefield.

While the tactical and national budgets are managed through two separate processes and compete for resources in a different manner, we do recognize the need to ensure that they are properly coordinated and integrated.

Over the last year, Secretary Perry and the Director of Central Intelligence have implemented a new joint management approach for national and tactical intelligence activities. This new approach includes a joint review process which examines intelligence "across the board," the issuance of both general and specific joint planning guidance, and a corporate approach to addressing priorities.

As an example, for years the development of certain tactical airborne reconnaissance capabilities remained fragmented, uncoordinated and inadequately funded. In order to correct this problem, we established the Defense Airborne Reconnaissance Program. It consolidates the acquisition of all relevant airborne capabilities within the defense and intelligence communities under one accountable manager.

The results are impressive. We have cancelled several programs and rearranged funds to fix the remaining programs. Similarly, we have tackled other areas, such as interoperability and imagery dissemination, where we have highlighted the need and applied resources to get the job done.

Let me now briefly highlight several of the major changes you will find in our fiscal year 1995 tactical intelligence budget proposal. We have made a number of difficult decisions to terminate programs that no longer enjoy a high priority given the changing strategic environment and budget realities.

The LANDSAT 7 remote sensing satellite has been terminated as a defense program and will be transferred to NASA. In addition, the Follow-On Early Warning System (FEWS) to detect the launch of ballistic missiles has been cancelled and replaced with a new program called Alert, Locate and Report Missiles (ALARM) which will be deployed later and be less expensive.

In addition, several programs were cancelled in the airborne reconnaissance arena, including the mid-range unmanned aerial vehicle (UAV) and certain sensor development programs.

These cancellations helped us deliver to you a total overall intelligence budget which is essentially flat compared to last year, while also accommodating needed investment for improved dissemination and interoperability of our systems. As such, I hope you agree that the budget as submitted is responsible in terms of spending, but strong in program content. More than a little "crystal" has been broken, but I am genuinely pleased with the outcome.

I would like to express one additional thought that I urge you to keep in mind as you review both the national and tactical intelligence budgets. Intelligence has become an increasingly important part of the Military Commander's arsenal.

It is vital for mission planning, targeting of precision-guided weapons, and providing timely battle damage assessments.

Commanders need to minimize the uncertainty of battle that otherwise could provide crucial opportunities for our opponents.

One of the things that worries us greatly is that we will be constrained in how much intelligence we are permitted to buy within the overall limits set for defense spending.

I assure you, there is every incentive for defense to buy only that level of intelligence capability that is absolutely essential for support of our military forces.

However, we want to make that choice by balancing our needs for intelligence with all the other needs that compete for resources within the defense budget.

I hope you will not prejudge that balance and set a spending ceiling either in the national or tactical intelligence budgets. I ask you to judge our programs on the basis of how well we can justify them within the spending limits set for defense generally.

Hopefully, we will be able to continue the downward spending for intelligence, but if we need to finance some new or improved capability that causes a temporary increase in spending, we want to have the flexibility to do that, whether it is a capability in the national intelligence budget, or in our tactical intelligence budget.

In conclusion, I ask for the committee's support for our C3I programs. The dangers we face in the national security environment of today and the future include the proliferation of nuclear weapons and other weapons of mass destruction, regional dangers, dangers to democracy and reform in the former Soviet Union, and economic dangers.

C3I systems are making and will continue to make major contributions in meeting the threats posed by all of these dangers. Within the framework of reduced defense spending, we have constructed a total C3I budget request that will allow a high degree of responsiveness to regional conflicts and addresses the challenges that we face in the 1990s and beyond.

Our C3I initiatives will move us farther down the road to "jointness" and more effective management of the forces in peace or war.

The Congress has consistently supported the role of C3I in our national defense by providing the sources necessary to develop and field critically needed capabilities, and we ask for your continued support for the C3I programs contained in this year's budget request.

These programs strengthen the Department's ability to deal with the increasing pace of change and the emerging requirements for more efficient and cost-effective force management capabilities associated with the new national security environment.

This concludes my opening remarks. I have with me today Mr. Keith Hall, my Deputy for Intelligence and Security, and Ms. Deborah Castleman, my Deputy for C3.

However, as I said earlier, I am prepared to try and answer any questions you have in my mission area. So there is no need to be constrained. We will now be happy to address your questions.

[The biography and statement of Mr. Paige follows:]

BIOGRAPHY
HONORABLE EMMETT PAIGE, JR.

Mr. Emmett Paige, Jr., is the Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD(C3I)).

He retired from the U.S. Army as a Lieutenant General on August 1, 1988, after almost 41 years of active service in the Communications-Electronics business.

He enlisted in the U.S. Army in August 1947 as a Private at the age of 16, dropping out of high school to do so. After completing Signal Corps Officers Candidate School in July 1952 he was commissioned as a 2nd Lieutenant.

He commanded the 361st Signal Battalion in Vietnam and later the 11th Signal Group at Fort Huachuca, Arizona. Additionally, he served two tours with the Defense Communications Agency.

In 1976, he was promoted to Brigadier General and assumed the U.S. Army Communications-Electronics Engineering and Installation Agency at Fort Huachuca, Arizona, and concurrently the U.S. Army Communications Systems Agency at Fort Monmouth, New Jersey.

In 1979, he was promoted to Major General and assumed command of the U.S. Army Communications Research and Development Command at Fort Monmouth, New Jersey. Then in 1981, he assumed command of the U.S. Army Electronics Research and Development Command, located at the Harry Diamond Laboratories, Adelphi, Maryland.

In 1984, he was promoted to Lieutenant General and assumed command of the U.S. Army Information Systems Command where he served until his retirement.

Following his retirement from the U.S. Army, until his appointment as the ASD(C3I), Mr. Paige was the President and Chief Operating Officer at OAO Corporation, an Aerospace and Information Systems Company in Greenbelt, Maryland.

Mr. Paige is a graduate of the U.S. Army War College. He has been honored as a "Distinguished Alumnus" of both the University of Maryland, University College, where he obtained his Bachelors degree; and Penn State where he received his Masters degree and in 1993, was selected as an Alumni Fellow. He was awarded an honorary Doctor of Law degree from Tougaloo College, Tougaloo, Mississippi. He has also been awarded an honorary Doctorate from the University of Maryland, Baltimore County.

He has been awarded the Army Commendation Medal, the Meritorious Service Medal, the Bronze Star for Meritorious Service in Vietnam, the Legion of Merit with two oak leaf clusters, and the Distinguished Service Medal with one oak leaf cluster.

Mr. Paige was selected as the Chief Information Officer of the Year in 1987 by Information Week Magazine. In 1988, he was selected for the coveted Distinguished Information Sciences Award winner by the Data Processing Management Association for outstanding service and contributions internationally to advancements in the field of Information Sciences.

He is married to the former Gloria McClary and has three children, Michael, Sandra, and Anthony.

DEPARTMENT OF DEFENSE
OPENING STATEMENT
BY

MR. EMMETT PAIGE, JR.

ASSISTANT SECRETARY OF DEFENSE
FOR
COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C3I)

BEFORE THE
SUBCOMMITTEE ON DEFENSE
HOUSE APPROPRIATIONS COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

APRIL 19, 1994

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"COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C3I)"

I. INTRODUCTION

Mr. Chairman and members of the Committee, it is my privilege to appear before the committee to discuss the Department of Defense's (DoD's) FY 1995 budget request for Command, Control, Communications and Intelligence or C3I programs. C3I systems have traditionally been viewed as the combination of communications, warning, intelligence, command and information systems necessary for military decision making and force management. These systems provide the command and control (C2) foundation for optimal effectiveness of our forces.

As we have moved out of the Cold War era, it has been necessary to adopt new policies and a more comprehensive and integrated C4I conceptual framework. This new framework is needed to address the new dangers and to capitalize on the opportunities of a post-Cold War world. It expands the traditional boundaries of C3I into areas such as security, information warfare and Corporate Information Management (CIM) in order to encompass not only commanding and controlling the combat forces, but to also provide a hard business-oriented look at the systems and processes needed to support the forces. This comprehensive, integrated view will help to ensure that our C3I systems fully support our national defense strategy in an efficient, cost-effective manner.

With the post-Cold War world comes a series of challenges which must be addressed. Among the challenges are:

- achieving a leaner, more modern C3I infrastructure,

- modernizing our C3I capabilities to prepare for smaller regional conflicts which will require highly mobile, light and lethal forces,

- ensuring that our C3I capabilities are highly flexible and satisfy the needs of diverse users, as current and future operations will be worldwide, joint and likely involve coalition partners,

- retaining highly effective C2 systems that maintain a credible nuclear deterrent capability,

- integrating military satellite communications (MILSATCOM), commercial SATCOM, and terrestrial communications into an integrated and interoperable infrastructure for the warfighting forces,

- implementing an end-to-end information transfer capability which is protected, interoperable and cost-effective, and

- modernizing our C3I capabilities through the effective adoption of commercially-available technology.

In order to meet these challenges, the Department can no longer afford highly specialized communications systems tailored to a specific task. To this end, we will minimize or eliminate the artificial boundary between our C3I systems. We will demand interoperability among our C3I systems, and work for the insertion of advanced technology into our systems to drive the costs down while improving existing capabilities. We will place a high priority on improving the ability of ground forces to communicate and receive intelligence from higher headquarters in the years ahead.

II. THE TOTAL FY 1995 C4I BUDGET REQUEST

The FY 1995 budget request is structured to meet these challenges in all of the following diverse mission and functional areas which comprise Command, Control, Communications, Computers and Intelligence (C4I). C4I encompasses the following major areas: Command, Control and Communications or C3 programs, the National Foreign Intelligence Program (NFIP), Tactical Intelligence and Related Activities (TIARA), the Department's security activities, and information technology programs to include our Corporate Information Management (CIM) efforts. When these areas are combined, the total amount requested for all C4I programs in FY 1995 reflects a balanced and cohesive overall program for sustaining our C4I capabilities.

III. COMMAND, CONTROL, AND COMMUNICATIONS (C3)

Within this total, $14.9 billion is for C3 programs, and may be divided into three major C3 mission areas: Defense-wide C3, Theater and Tactical C3, and Space and Nuclear C3.

Defense-wide C3 systems provide the long haul and common user communications, base level information infra-structure, information security (INFOSEC) and national level communications needed for a seamless, secure, reliable and cost-effective global telecommunications infrastructure. This global infrastructure supports the ready availability and transfer of information to meet world-wide military contingencies across the spectrum of potential military conflict. This same telecommunications infrastructure is critical to realizing substantial productivity gains.

These systems are critical to DoD's readiness. Our growing dependence on automated systems, coupled with their vulnerabilities, and the increasingly complex and sophisticated threats to them -- from hackers to foreign signals intelligence (SIGINT) systems -- require a comprehensive Information Systems Security readiness program be established within the Department. As we work toward this end, we look forward to and request the continued support of the Committee. For the broad range of telecommunication services provided by defense-wide C3 systems, we are requesting $4.8 billion in FY 1995.

Theater and tactical C3 systems provide military commanders with the facilities and communications equipment necessary for managing conventional forces. The objective of theater and tactical C3 systems is to ensure secure, survivable, interoperable C3 systems for joint and combined operations. Given the emphasis on strengthening our ability to rapidly respond to regional crises, effective theater and tactical C3 capabilities are extremely critical, especially as the size of the force structure decreases.

In support of this objective, we are continuing to acquire new theater and tactical C4 systems. For example, we are currently purchasing several simple devices to provide an immediate enhancement in identifying armored vehicles. These include near-infrared flashers that can be seen in image intensifiers, reflective panels that are visible in thermal imagers, and small Global Positioning System (GPS) receivers. Development is in progress on a millimeter-wave question-and-answer system for potential near-term application, and studies have been initiated to determine the most cost-effective long-term approach. We are also continuing to improve the Airborne Warning and Control System (AWACS) in the areas of radar range and reliability, identification, communications and navigation, and will ensure that this vital platform will be fully responsive to future needs. Similar improvement are being realized in our theater and tactical communications programs. Procurement and fielding of Single Channel Ground and Airborne Radio System (SINCGARS) radios is continuing with monthly production approaching 1700 radios, and full rate production by a second source has been approved. Pre-planned product improvements (P3I) and system enhancements are being made to Mobile Subscriber Equipment (MSE) and TRI-TAC equipment to ensure that these systems continue to provide needed interoperability and capacity to support the Joint Task Force Commanders. The Multifunctional Information Distribution System (MIDS)-Low Volume Terminal (LVT), a five nation international cooperative project to develop a smaller version of the Joint Tactical Information Distribution System (JTIDS) for ensuring coalition force interoperability, has entered the Engineering and Manufacturing (EMD) phase. For these and other theater and tactical C3 programs, we are requesting $5.2 billion in FY 1995.

Space and nuclear C3 systems provide important capabilities in support of both strategic command and control (C2) and important elements of conventional C2. The nuclear C3 systems developed and maintained over the past forty years have been a key ingredient in sustaining the credibility of our nuclear deterrence. Consistent with a post-Cold War era, we are continuing to restructure, consolidate and downsize nuclear C3 assets to provide effective command and control of the nuclear forces, yet achieve significant cost savings and manpower reductions. At the same time, we are moving forward with the satellite communication (SATCOM) systems needed to not only maintain command and control of our nuclear forces, but to also provide secure and interoperable communications for conventional warfare and to rapidly respond to regional crises. Our forces must be capable of responding with speed and flexibility anywhere in the world where regional threats and conflicts emerge. Space C3 systems provide an unparalleled capability to support this rapid, global response requirement. As we pursue the force reductions and restructuring needed to respond to a new defense strategy, space systems will become even more important to C3 in the future. A total of $4.9 billion is requested in FY 1995 for our space and nuclear C3 systems.

IV. INTELLIGENCE AND SECURITY

We are in the midst of a transitioning world where intelligence has moved away from the predominant Soviet threat scenario and must now focus on worldwide, diverse and, in some ways, more demanding scenarios. Indeed, continued follow-up efforts in the Middle East, as well as Somalia and the Bosnian conflict have highlighted this new world order.

In looking at these present and future challenges, we believe the penalty for the failure of defense intelligence in support of military operations could be catastrophic and would result in significant and unacceptable military and political consequences. Accordingly, it is a primary goal of the Department to have an integrated, flexible defense intelligence capability that focuses on and effectively supports the planning and execution of military operations. This goal provides the foundation for the FY 1995 budget request for both our National Foreign Intelligence Program (NFIP) and Tactical Intelligence and Related Activities (TIARA).

A. National Foreign Intelligence Program (NFIP)

National intelligence supports the National Command Authorities and other senior military and civilian policymakers. The national intelligence effort is contained in the National Foreign Intelligence Program (NFIP). The Director of Central Intelligence (DCI) is charged by the President with the responsibility for providing program guidance and developing the NFIP budget. The areas encompassed in the DoD portion of the NFIP budget include the activities of the National Security

Agency (NSA) and the cryptologic elements of the Services engaged in the signals intelligence (SIGINT) mission, the activities of the Defense Intelligence Agency (DIA) and intelligence components of the Services which are devoted to the collection, processing and production of national intelligence, the activities of the Central Imagery Office (CIO), the Department's foreign counterintelligence activities, and other intelligence-related activities.

B. Tactical Intelligence and Related Activities (TIARA)

The TIARA portion for FY 1995 covers the following seven general areas:

- Intelligence Forces
- Airborne Reconnaissance and Surveillance
- Surveillance and Target Acquisition
- Analysis and Exploitation
- Research and Technology
- Defense-wide Support
- Tactical Warning

The resources for Intelligence Forces provide the TIARA manpower and training resources for strategic, operational, and tactical intelligence support for U.S. military forces. Both active and reserve forces are included, as well as the training programs needed to ensure effective support.

The Airborne Reconnaissance and Surveillance category includes manned and unmanned airborne reconnaissance vehicles, sensors, data links, data relays, and ground processing systems (including modification to Service and Agency-unique systems to ensure commonality and interoperability). Last year, the Defense Airborne Reconnaissance Program (DARP) was created to consolidate development and acquisition of joint-Service and Defense-wide airborne reconnaissance systems. The studies and analyses used to help define and create the DARP and its management structure, the Defense Airborne Reconnaissance Office (DARO), resulted in significant changes in the unmanned aerial vehicle (UAV) program. Our emphasis is now on pursuing accelerated acquisition and operational demonstrations of endurance class systems. The Medium Range UAV program has been terminated while the other tactical systems under the UAV Joint Program Office (JPO) have been renamed and consolidated under a single program manager. The consolidated Joint Tactical UAV Program consists of Joint Tactical Hunter (formerly Short Range), Joint Tactical Maneuver Variant (formerly Close Range), and the Joint Tactical Shipboard Variant (formerly Maritime UAV). Sensor and data link development in support of these systems was also consolidated under the DARP to pursue commonality, ensure interoperability and compatibility, and reduce overall costs. Additional savings have been realized by cancelling selected advanced sensor development efforts.

Surveillance and Target Acquisition includes collection capabilities that are ground or sea-based. A large part of this category includes various undersea collection capabilities. Generally, these programs have been significantly reduced. In addition, all counterdrug activities are consolidated under this category to permit an overview of the total program rather than spread throughout the other categories. Efforts supported by the FY 1995 budget request include fielding of eight Army Ground Based Common Sensors to consolidate a large number of tactical collection and processing capabilities in the Army's inventory and permit much more effective operational support. The sensor package is to also be incorporated in the Army's Advanced Quickfix helicopter and the Marine Corps Marine Electronic Warfare Support System (MEWSS).

In the Analysis and Exploitation area, a series of all-source analytical capabilities are being developed, fielded, or improved. For example, the Army's All Source Analysis System (ASAS) continues development along with incorporating improvements to systems already fielded. The Navy Tactical Command System - Afloat (NTCS-A) system of the Navy will continue to develop, improve and field next generation hardware, while also initiating integration development with the joint mission planning system.

The overall program for Research and Technology includes the TIARA portion of the Ballistic Missile Defense Office (BMDO) which is comprised of the surveillance, acquisition, tracking, and kill assessment (SATKA) component of BMDO. We have requested that this program be removed from TIARA because of its close alignment with supported weapons systems. The Advanced Research Project Agency also has programs in this category to do the early technology demonstrations required for later inclusion in mature program development. Also included is our foreign material acquisition and exploitation (FMA&E) program.

A significant portion of the Defense-wide Support category is for the Defense Mapping Agency's (DMA's) operations to produce and distribute maps, charts, and precision positioning information in support of military requirements. The defense share of funding for one program in this category was transferred to the NFIP to consolidate management, and LANDSAT development was terminated. Efforts continue to develop capabilities to exploit national collection through various Tactical Exploitation of National Capabilities (TENCAP) projects.

Many of the programs in the Tactical Warning category support both intelligence and C3 missions. One of the most significant recent changes to this area was the termination of the Follow-on Early Warning System (FEWS) and the subsequent initiation of the Alert, Locate and Report Missiles (ALARM) program. Other surveillance capabilities in this category such as Ballistic Missile Early Warning System (BMEWS) are being operationally maintained.

In summary, the Department and the Director of Central Intelligence have developed a new approach for integrating the oversight and management of intelligence programs and activities. Through a joint review process, both the NFIP and TIARA elements were thoroughly scrubbed so that the best utilization and balance of resources were achieved. The first steps have been successful. Recognizing the likely consequences of failed intelligence in support of military operations, our primary objective is to achieve an affordable, yet effective and integrated intelligence capability to meet the needs of the military commanders worldwide.

C. Security

Our security activities are aimed at safeguarding the classified and sensitive information and materiel that are critical to our warfighting capabilities, as well as physical security of DoD facilities. These activities address classification, personnel security, physical security, industrial security, technical security and operations security. This includes conducting personnel security investigations leading to the granting of a security clearance to military and civilian personnel of the DoD and its contractors, and overseeing security administration in the defense industry. For FY 1995, we are requesting $3.2 billion for our security activities.

A number of initiatives are underway to reduce security infrastructure costs in accordance with reasonable risk management. As an example, we are implementing the National Industrial Security Program, mandated by Executive Order 12829, to standardize government security requirements imposed on industry. Security requirements in defense contracts are being streamlined through the Acquisition Systems Protection initiative which provides cross-program threat analysis to focus security planning on essential elements requiring classification or other safeguards. There are also new initiatives for strengthening our defense against economic espionage and proliferation of sensitive weapons technologies by more closely monitoring foreign ownership, control, and influence at classified contractor facilities.

We are also providing extensive support to a national task force which is revising the entire classification system, and are participating in the Joint Security Commission's review of security practices in both the Department and the intelligence community. These efforts are designed to provide a realistic and cost-effective approach to security countermeasures in the post-Cold War era.

V. INFORMATION WARFARE

Information warfare is a means to better integrate C4 and I, as well as to address the comparative effectiveness of a potential adversary's C4I. It consists of actions taken to preserve the integrity of one's own information systems from exploitation, corruption, or destruction while, at the same time, exploiting, corrupting, or destroying an adversary's information systems and, in the process, achieving an information advantage in the application of force. Information warfare is a concept that recognizes the extraordinary value that information has come to have in military operations. It is an integrating strategy to better organize and coordinate our efforts to ensure an optimized information system responsive to the very demanding information requirements inherent in a smaller force structure, a rapid response capability, and advancing military technologies such as deep strike and precision guided weapons and enhanced mobility of forces. It makes better use of resources to provide for a more fully informed force, a force that can act more decisively increasing the likelihood of success while minimizing casualties and collateral effects. A broad DoD policy in the form of a DOD Directive on information warfare has been promulgated. The Military Departments, Joint Staff, and affected Defense Agencies are acting on this policy, developing doctrine and reorganizing, as appropriate, to better address information warfare issues. We are in the process of establishing a small organization charged with the centralized planning and coordination of information warfare activities.

VI. KEY C3I PROGRAMS AND ISSUES

A. C3I Interoperability

Many issues involving C3I interoperability are being worked, and more are emerging. These issues deal with a wide range of legacy systems and systems acquired by the Services and Agencies. To address these issues, we are looking at various ways DoD can facilitate integration of various programs being developed by the Services and Agencies to ensure that joint force C3 interoperability requirements are met to support the Unified Commands. Examples of current C3I interoperability efforts include:

- modeling and standardizing data elements,

- baselining tactical switch software and developing an architecture for future tactical switching systems,

- identifying tactical requirements for the Defense Message System,

- developing a Tactical C3I Data Link Management Plan,

- developing common symbology and mapping standards,

- adopting common software for development and distribution of Air Tasking Orders, and

- identifying Service/Agency migration systems to incorporate into the Joint Global Command and Control System.

Our integration efforts are focusing on systems that can be integrated to enhance functionality for the warfighter, allow people to work smarter by sharing common information from widely separated locations and then do necessary collaborative planning.

The Deputy Secretary of Defense and the Director of Central Intelligence (DCI) have also created an Intelligence Systems Board (ISB) which oversees intelligence system interoperability issues. This Board develops the planning and strategies needed to implement critical corrective actions for the interoperability of key systems. Recent direction has mandated that C3I systems are considered for joint use and, therefore, they must be made either interoperable or terminated. A program has been established under the oversight of the ISB to migrate selected legacy intelligence systems within both TIARA and NFIP to standard open systems architectures. The objective is to ensure interoperability for these components by FY 1997.

B. Joint NFIP-TIARA Reviews

A new way of doing business has been instituted between the Intelligence and Defense Communities. A Joint NFIP-TIARA Review process was established by the Deputy Secretary of Defense and the Director of Central Intelligence to examine intelligence "across the board" in order to make joint, coordinated decisions on key issues. This Joint Review process resulted, for the first time, in Joint NFIP and TIARA Program and Planning Guidance being issued by the Deputy Secretary of Defense and Director of Central Intelligence which provided both general and specific direction to all elements of the Defense and Intelligence Communities. Further, both the DoD and NFIP budget review cycles were harmonized to support the development of the FY 1995 budget request for NFIP and TIARA.

From this Joint Review process, shared NFIP and TIARA funding of key programs was approved for critical efforts such as establishment of an imagery dissemination network and implementation of important NFIP-TIARA interoperability projects and management measures. Furthermore, the Director of Central intelligence and Deputy Secretary of Defense agreed to realign selected programs between the NFIP and TIARA to allow consolidation of program management to bring about more efficient program development through single point management, execution, and accountability.

C. Support to Two Major Regional Conflicts

In support of the ongoing Joint Review process, a study has recently been initiated to evaluate the ability of the intelligence community to support military operations in two, nearly simultaneous, major regional conflicts. The study is to develop scenario-based understanding of how intelligence systems will operate in support of military operations. This is particularly critical because the effectiveness of modern military weapons and delivery systems is becoming increasingly more dependent on precise and timely intelligence to support mission planning, navigation, targeting, and battle damage assessment. The study results will support the upcoming program and budget review process for FY 1996-2001.

D. Milstar Satellite Communications System

Milstar provides essential protected connectivity to meet military requirements. It is the core of the DoD's military SATCOM (MILSATCOM) architecture and is integrally related to all other military communications satellites, as well as other terrestrial communications systems. The Milstar satellite system is planned to provide operational forces, especially highly mobile tactical units, with secure, survivable, flexible communications on a world-wide basis. The Milstar system operates in extremely high frequency (EHF), a previously unused part of the radio spectrum. This attribute plus other design features, like advanced signal processing, provide unique mission capabilities required by today's warfighters for power projection into possible theater conflicts around the globe.

While the Milstar program has focused on satisfying needs identified at its inception in the early 1980s -- providing secure, survivable, flexible communications for both tactical and strategic users -- the world situation has changed dramatically and so has the scope and application of the Milstar program. Although the threat of protracted nuclear war is greatly reduced, the threat of regional conflicts has risen dramatically. At congressional urging, the Department restructured the Milstar program extensively three years ago to reduce costs and to account for changes in the international and national security environments. Requirements for a classified payload were deleted. "Heroic" survivability features envisioned for the Cold War environment were eliminated. The number of satellites, ground control elements and terminals were also reduced commensurate with the threat and force structure reductions. These along with other changes helped to reduce program life cycle costs by 25 percent.

Last year, the Department further scrutinized MILSATCOM programs as part of the Bottom-Up Review of military forces and major defense programs. The review evaluated numerous alternatives to Milstar while considering an updated threat estimate, operational requirements, cost-effectiveness tradeoffs, risk, and affordability. The review emphasized low data rate (LDR) and medium data rate (MDR) capabilities for U.S. tactical forces. It focused specifically on providing lower cost alternatives to the baseline Milstar program.

The alternative selected in the Bottom-Up Review calls for two Milstar I LDR satellites and four Milstar II LDR/MDR satellites, followed by the development and launch of an advanced EHF LDR/MDR satellite not later than FY 2006. It was selected because it best meets military requirements and provides the most capability at the earliest date. It also represents the best means of achieving needed capability while reducing long-term costs.

The first Milstar I satellite, with LDR only capability, was launched last February 7th. This launch marks the beginning of a new era in satellite communications. The second Milstar I satellite will be delivered in time to support a scheduled launch in FY 1995. Development of a MDR payload for expanded tactical utility is on track for a first Milstar II launch in FY 1999. Technology assessment for an advanced EHF system has begun, and an advanced EHF satellite is currently planned to be available for launch after Milstar satellite #6.

At the time of the Bottom-Up Review, the selected alternative was expected to save approximately $3 billion in program life cycle costs. After further examination, we now believe we can save almost $4 billion in life cycle costs, compared to the baseline Milstar program. These savings have been made possible through a combination of improved efficiencies in program execution and the transition to a lower cost, lower weight advanced EHF satellite design. Because we were able to use prior year funds appropriated for Milstar in conjunction with program efficiencies and the results of the Bottom-Up Review, the Department was able to reduce the funding required in FY 1995 for Milstar satellites. It allowed us to reduce our budget request for Milstar satellites from the $819.7 million projected last year for FY 1995 to the current $607.2 million request.

E. MILSATCOM Architecture

When the Department restructured the Milstar program in 1991, it also updated the MILSATCOM Architecture -- the framework used to manage, organize, and evaluate MILSATCOM systems relative to other satellite and terrestrial communications systems. The architecture provided a framework within which MILSATCOM cost reduction decisions have been evaluated and has resulted in a net reduction in life cycle costs of almost $20 billion dollars. That amount represents more than a 30 percent reduction in investment over the last three and one half years.

The 1991 architecture study identified numerous combinations of alternatives: existing systems with either enhanced or reduced capabilities, advanced technology proposals, and extensive use of commercial satellites. The DoD selected the baseline architecture of currently approved and ongoing systems, including Milstar, Defense Satellite Communication System (DSCS), and the Ultra High Frequency (UHF) Follow-On.

However, the content of the baseline architecture used in the 1991 study has changed substantially over the past three years. While this 1991 architecture served the Department well, it is currently considerably out of date. With the series of program changes discussed above and the increased use of commercial systems to supplement military capabilities, we plan a comprehensive update of the architecture with a new DoD SATCOM Architecture. To support that update, the Department is currently conducting a review and recertification of requirements, identifying the mix of long haul and tactical transmission services which should be allocated to military and commercial systems, and identifying which communications networks could cost effectively transition from long haul Super High Frequency (SHF) service to commercial SATCOM or fiber optic cable. This extensive review of communications needs and systems solutions should be available for a full evaluation of the FY 1996 budget request next year.

F. Navstar Global Positioning System (GPS)

Navstar GPS is a space-based positioning and navigation system designed to provide world-wide, all weather, passive, three-dimensional position, velocity and timing data to a variety of U.S. and allied military users. GPS provides a military accuracy of 16 meters and a variable civilian accuracy set to 100 meters in peacetime. GPS proved of enormous military value in Desert Storm in all phases of combat operations where it was largely responsible for the swiftness and precision of our force movements and for the relative safety with which they were conducted. The fully operational constellation of 24 satellites was completed with the launch of the 24th production satellite on March 9, 1994. Full Operational Capability (FOC) will follow completion of final systems testing and is expected in late 1994 or early 1995.

A joint task force of the DoD and Department of Transportation (DoT) convened early in 1993 to address several issues associated with growing civil use of GPS. It produced a report in December 1993 entitled "The Global Positioning System: Management and Operation of a Dual Use System." Issues studied by the task force were: GPS management structure, GPS funding, GPS Standard Positioning Service (SPS) accuracy, GPS integrity and availability, regulation of GPS augmentations, international acceptance, and spoofing and jamming of GPS. The report laid the foundation for future military and civil cooperation in the operation of this national resource. It builds upon long-standing relationships between the DoD and DoT in navigation systems planning and upon agreements reached earlier in 1993 for civil use of GPS. With these agreements and understandings, GPS will become the primary radionavigation system operated by the federal government well into the next century. GPS will truly become a national utility and will fulfill its promise as a dual use system.

G. Space-Based Early Warning Systems

The Defense Support Program (DSP) is our primary system for providing the first warning of ballistic missile launches worldwide. It is a constellation of satellites in geo-synchronous orbit that detect infrared radiation. The detected data is broadcast to ground stations where it is processed to determine if the data represents a missile launch. Once a launch is identified, tactical parameters, such as launch point, launch time, heading and missile class are calculated, and a warning message is sent to users.

DSP was developed in the late 1960s to address the threat to the U.S. from inter-continental and submarine-launched ballistic missiles. Since that time, the Department has made block changes to the satellite. These upgrades have provided improvements in sensor performance, satellite hardening, and longevity.

However, with the collapse of the Soviet Union and attendant changes in threat from strategic ballistic missiles, it became necessary to re-examine our early warning systems. These systems and our plans were examined in an internal DoD review conducted last summer. Because of the national security issues at stake in the early warning mission, the Department also convened an independent study group, in parallel with the Department's internal review. The independent study group examined several alternatives for satisfying the early warning mission. These alternatives included: the existing DSP, a light-weight DSP, the then proposed Follow-on Early Warning System (FEWS) design, a light-weight FEWS design, and a new satellite design developed by the study group. The group recommended that the Department should continue the block buy of three DSP satellites because of near-term considerations, and terminate the FEWS program because it was intertwined with nuclear war-fighting and the Strategic Defense Initiative and, therefore, was not responsive to current DOD needs.

In our internal review, we also examined the option of modifying the DSP platform to reduce weight and improve sensor performance. Neither the Department's internal review nor the independent study group found advantages to this concept that outweighed the advantages of a competitive effort for a new early warning system.

Accordingly, our conclusions were the FEWS program as configured was unaffordable, but a new early warning system is still needed. As a result, we cancelled the FEWS program, will buy DSP satellite #23 while keeping an option open for satellite #24, and plan to start a program to replace DSP with a system that will have less on-board data processing than FEWS, but better detection performance than DSP especially against tactical ballistic missiles. The cost of this program will be less than continuing with DSP, and we will be able to boost it into orbit on a medium launch vehicle (MLV) instead of a TITAN IV. The Air Force is reviewing the requirements for worldwide early warning and is constructing a new program that is affordable. Next year, we plan to start contractor efforts on a new design for a new system called Alert, Locate and Report Missiles (ALARM).

VII. CONCLUSION

In conclusion, I ask for the Committee's support for our C3I programs. The dangers we face in the national security environment of today and the future include the proliferation of nuclear weapons and other weapons of mass destruction, regional dangers, dangers to democracy and reform in the former Soviet Union, and economic dangers. C3I systems are making and will continue to make major contributions in meeting the threats posed by all of these dangers. Within the framework of reduced defense spending, we constructed a C3I budget request that will allow a high degree of responsiveness to regional contingencies and addresses the challenges that we will face in the 1990's and beyond. Our C3I initiatives will move us farther down the road to "jointness" and more effective management of the forces in peace or war. The Congress has consistently supported the role of C3I in our national defense by providing the resources necessary to develop and field critically needed capabilities, and we ask for your continued support for the C3I programs contained in this year's budget request. These programs strengthen the Department's ability to deal with the increasing pace of change and the emerging requirements for more efficient and cost-effective force management capabilities associated with the new national security environment.

SHOOTDOWN INCIDENT OVER IRAQ

Mr. MURTHA. Mr. McDade?

Mr. MCDADE. Thank you, Mr. Chairman.

Let me start with a broad question. The overall budget for C3I programs is $50 billion. We saw the unfortunate incident over in the no-fly zone.

Mr. PAIGE. Iraq.

Mr. MCDADE. Indentification Friend or Foe [IFF] is one of your principal tactical systems; C3 systems, I guess, would be more accurate?

Mr. PAIGE. It is one of them

Mr. MCDADE. When you look at C3 in the context of DOD's enormous efforts C3 should be a large part of our efforts. We support C3 programs.

Why did the C3 function not work during the shootdown incident in Iraq? Do you have any information you could furnish the committee?

Mr. PAIGE. All of us, from the Secretary, the Chairman, everybody in the Department have the same questions and we are looking for the answers.

Today we do not know what happened. The procedures, the doctrine, everything that was in place, something fell apart and we don't have the slightest idea.

Mr. MCDADE. Were the IFF systems on?

Mr. PAIGE. We don't have an answer to that question. The helicopters have the Mark 12 Transponder. The fighters have the Transponder and the Interrogator.

We must assume that they were on, but we have no positive knowledge that they were.

Hopefully, we will be able to find out from the investigating team that is on site now.

Mr. MCDADE. If they were functioning, the whole thing is in the fog of war. If they were on, the shootdown would have been avoided. It doesn't seem possible it could have occurred, does it?

Mr. PAIGE. You are right.

Mr. MCDADE. We learned in the war in Saudi Arabia that as we extend the battlefield, although we use the C3 assets, friendly fire becomes an increasing problem, particularly over the horizon.

Is there some major initiative not just for the Army, Air Force, or Navy, but across the spectrum to try to deal with that problem as the battlefield extends itself and we wonder where our people are? Is there something in this budget that is a major initiative in that area?

Mr. PAIGE. Not a major initiative.

The closest thing to that, in addition to the combat ID program that the Army is working on, in addition to the air-to-air identification program that we have being worked with the Air Force and the Navy, the Navy has the lead on that.

The major significant contribution that I can see and that you will find is the only effort to digitize the battlefield.

Of course, the Army will never be on the battlefield alone, the Navy and Marine Corps, the Air Force, everything contributes to the battlefield in one way or another.

As we digitize the battlefield, that means all of the weapon systems, everything out there, will have a digital signature and hopefully that will help people to know where they are, particularly those that are on the ground.

The air-to-ground problem is one that we have to work on and become even more aggressive on.

My contention is that it is one of the most important programs that this administration should seek to come to closure on for the future.

Mr. McDADE. You know, I agree with what you have said and this committee has strongly supported the digitized battlefield by providing funding for the requests that have come over. However, I hear the problem is still out there and I don't hear anything being innovated.

Are you comfortable with what is in the budget? You mentioned all the services are cooperating to make sure that friendly fire, which is an increasing problem as you extend the battlefield, is covered. Are you comfortable that the current budget takes care of that problem?

Mr. PAIGE. I am comfortable that the budget, as submitted, takes care of that problem as we have it planned today.

All I can do is assure you that it has been a high interest area with me since the days when I was a corporal in the Army.

Fratricide is a key consideration, one that I intend to try and force action on and I know that I will have the support of Dr. Deutch. He and I have talked about it and have exchanged memos on the subject.

Mr. McDADE. Next time you talk to him, make sure he understands it is also a priority for our committee. This committee, under the leadership of our chairman, has been very strong in making sure we extend C3 systems to militate against friendly fire.

We are concerned that as the battlefield extends, it is going to be an increasing problem for you.

When you talk to Dr. Deutch next time, let him know that we are deeply interested in trying to solve this problem. If you find you need additional systems, let us know about it.

Mr. PAIGE. I will certainly do that.

EARLY WARNING SATELLITES

Mr. McDADE. We are concerned over the cancellation of the FEWS system. We know it was the Tactical Air Command's number one priority and that the program was cancelled allegedly for affordability.

Do you agree that is the reason for the cancellation, Mr. Paige?

Mr. PAIGE. Yes, sir.

It was a high priority in Space Command.

Mr. McDADE. FEWS was the number one priority for the general who commanded the air war of the Gulf.

Mr. PAIGE. Space Command, General Horner.

Mr. McDADE. I refer to General Horner as the head of the Tactical Air Command. He was the guy who targetted everybody and faced the problem of incomers without specific information.

We have a lot of concerns. I think there is over a billion dollars sunk in the FEWS system, isn't there?

Mr. HALL. If you look at the predecessors to it, it amounts to almost $2 billion that was put in the advanced warning system, the boost surveillance and tracking system that was under the SDIO Office and the FEWS system. Those were seeking to develop the same types of technology and there was about $2 billion in investment.

Mr. MCDADE. In sunk costs?

Mr. HALL. Yes, sir.

Mr. MCDADE. What would be the cost to completion if one wanted to reverse the decision and try to proceed with FEWS?

Mr. HALL. Over the five-year defense program, the amount that was saved by the cancellation was $2 billion, so that would be the amount of money required, in addition.

As to what led——

Mr. MCDADE. Tell me about the new system. It will be much later in coming on stream, won't it?

Mr. HALL. Yes. Approximately four years later than when we would have deployed the FEWS program. The new program is called ALARM.

Mr. MCDADE. Please explain the justification for canceling FEWS. Earlier this year we had discussed FEWS in an open hearing. We can discuss classified details in this hearing.

Mr. HALL. ———.

We had a major review of this last summer along two tracks: one headed by an outside entity, an individual from MITRE that headed an outside team and the basic review was done by the Bottom-Up Review. ———.

[CLERK'S NOTE.—Classified discussion removed.]

INTELLIGENCE SUPPORT TO U.N. FORCES

Mr. HALL. Mr. Paige made the funds available in a below-threshold reprogramming to fix these problems immediately and I believe our readiness is good to disseminate intelligence to deployed forces.

Mr. MURTHA. Does that include all-weather systems? For instance, they have two or three months of good weather and the rest is pretty bad.

Mr. HALL. ———.

Mr. MURTHA. And people on the ground?

Mr. HALL. Yes, sir; and SIGINT is all-weather.

BOTTOM-UP REVIEW

Mr. YOUNG. Much of this year, the subcommittee has spent a significant amount of time meeting with the Joint Chiefs and the CINCs; most of the CINCs have been here. The Committee basically deals with the warfighters.

One of the things we are talking at great length about is the issue of the Bottom-Up Review and the ability to deal with two MRC's in a near simultaneous time frame.

What about our intelligence capability? Can we handle two MRC's today?

Mr. PAIGE. Today we have a study in process, a follow-onto the Bottom-Up Review. One of the weaknesses of the Bottom-Up Review is that it did not place the emphasis that we felt was necessary on the intelligence to include the communications to support the intelligence.

When we brought that to the attention of Dr. Deutch, he established another task force headed up by Mr. Hall and our group.

They are currently working the problem and expect to report out some time within the next 30 days.

Mr. HALL. Couple of months—June.

Mr. YOUNG. I am happy that you responded like you did rather than just sitting back and taking the words of the Bottom-Up Review as gospel on the subject because much of the testimony that we have developed here through rather intense questioning is that some of those warfighters, the CINCs and Joint Chiefs aren't as convinced that we can handle two MRC's as the Bottom-Up Review would have us believe.

For example, General McPeak got my attention. We were talking about the ability to handle two MRC's and he said that he would be much more comfortable if one of them was a big one and one was a little one, which indicated to me that he wasn't that convinced that we could deal with two MRC's.

Mr. PAIGE. Any warfighter would feel that way. I certainly would.

Mr. YOUNG. We were talking specifically about the ability to handle two MRCs. One of the witnesses used the word "war stopper," by the standing down, the reducing of the end strength, termination of certain systems, reduction of the number of ships, et cetera, the number of airplanes now that were unable to fly because they have been used for spare parts. He used the word "war stopper."

War stopper—I think that is a pretty powerful statement.

Another used the word "Achilles' heel." I am not sure that the warfighters are convinced that after we complete what the Bottom-Up Review portends for us, that we are going to be able to deal with two MRC's.

One of our Members asked what is the potential for having two MRC's in a simultaneous time frame, and I got the feeling that he didn't think that would happen.

The witness responding made it pretty clear that it would be likely to happen, that if we got embroiled in one, we would likely be embroiled in the second because of our overextension.

I am glad you have made your point that you are concerned also about the ability of the intelligence and C3I community to function.

We will be anxious to see the results of this study in this report.

Thank you very much.

Mr. MURTHA. Mr. Visclosky?

Mr. VISCLOSKY. Thank you, Mr. Chairman.

INTELLIGENCE BUDGET

Mr. Paige, as I understand it, ———.

Mr. PAIGE. Yes, sir.

Mr. VISCLOSKY. ———.

Why the differential for essentially the same program?

Mr. PAIGE. ———.

There must be a misunderstanding. Maybe we can take that and come back for the record.

Mr. DICKS. I think the number you gave is the accurate number. I am sure the Director meant to say the same number because it is the same number.

Mr. HALL. Sometimes they will talk about the Defense NFIP and eliminate the CIA portion of it. We have the same figure.

Mr. DICKS. It is the same number.

ACQUISITION REFORM

Mr. VISCLOSKY. Okay.

Acquisition—DOD is currently reviewing the current acquisition process. What changes would you like to see in the acquisition process?

I am still reasonably new here, in my 16th month, and I hear a lot about acquisition and acquisition reform.

Are there specifics that you are looking at or that you would like to see?

Mr. PAIGE. Having been a program manager and head of contracting activities in the past, I would think that just the appropriations issue would be the most significant one that I would look for.

In other words, getting away from the year-to-year appropriations for procurement dollars. To me that is the single most importance change that I would look for or would like to have as a program manager or someone out trying to execute a program within not only the Department of Defense, but anywhere else in the Federal Government.

Mr. VISCLOSKY. What would you like to see instead of the annual appropriation process?

Mr. PAIGE. At least a minimum of three years, (i.e. biennial or triennial budgets).

Mr. VISCLOSKY. Can that be realistic?

Mr. PAIGE. That is realistic. Yes, sir.

You asked me what do I think would be realistic or good from a business point of view and having been on both sides, that, to me—my personal opinion is realistic.

Mr. VISCLOSKY. Could you give me specific examples of programs that have become ineffective or more costly from your perspective because of the annual review and change in the appropriation levels?

Mr. PAIGE. I will provide you an answer for the record.

[The information follows:]

Any new start in DoD is delayed at the start of a fiscal year until a new Appropriation Act is passed by Congress and signed by the President. This delay could be removed if a multi-year appropriation existed that could fund such requirements. Alternatively, new starts are delayed during periods of a Continuing Resolution Act (CRA) until passage of an Appropriations Act.

Existing programs are also impacted by the limited resources available under a CRA. Frequently, planned actions must be curtailed or stretched out to conform with available resources within the CRA.

The window of opportunity to obligate single-year funds for contractual support is also shortened on the other end because many contracting offices stop accepting contractual actions in May or June. When funding delays occur, delaying program execution, the window of opportunity to obligate single-year funds is closed even more.

These situations reduce the effectiveness of DoD's program management, compress the time for sound decision making and raise the possibility of selecting higher risk, more costly alternatives. Planned development and modernization efforts are sometimes delayed.

Mr. VISCLOSKY. You are serious about that?

Mr. PAIGE. Yes, sir. There are so many of them; from tank fire with the Army in the past, battery computer systems. You can go on and on. Perhaps they have cost us more because of the appropriations.

Mr. VISCLOSKY. Is it because of the reductions in the anticipated appropriations or——

Mr. PAIGE. I am talking from the O&M cost, one-year money and on the procurement side I said three years I was talking O&M really at that time.

Procurement should be five years.

Mr. VISCLOSKY. Is it the variance on a program base or is it a variance of the general O&M figure that causes you concern?

Mr. PAIGE. The variance of what is available to the programs.

Mr. VISCLOSKY. Do you have a problem on the upside where we would give you too many dollars chasing too few goods?

My perception as a Member is there may have been instances where there were too many dollars inflating the cost of goods. We were looking for things to spend money on.

Mr. PAIGE. I was in the Army during those days and buying systems, building systems, engineering systems for the Army. I was never that lucky. I can't think of any.

Ms. CASTLEMAN. I would like to add to that.

In C3 systems, there is a lot we can do in terms of procurement reform. On the Under Secretary for Acquisition and Technology side, we have Coleen Preston who is specifically charged with procurement reform.

Aside from the more difficult issues, such as those just alluded to, there are several things that we can do particularly in C3 systems.

This is particularly important given the information technology generation life cycle, sometimes now 18 to 24 months, and we can't afford the long procurement cycles that we have tended to face.

Otherwise, we are behind in the technology by the time we field these systems so we are moving as much as possible toward an evolutionary acquisition approach where you build a little, test a little, buy a little.

We are looking to field smaller increments rather than a huge, major program, and leaning more toward functional specifications rather than trying in DOD to design the system ourselves.

You asked what we need? We need to move more toward commercial, off-the-shelf, being able to buy commercial, off-the-shelf because you can look at what else already exists out there and maybe we don't need to design that computer system ourselves, but look at what is available on the market place.

We are continually striving to look for ways to improve the process while the more extensive procurement reform initiatives are going on under Coleen Preston's office.

Mr. VISCLOSKY. If I could read an excerpt from a DOD-wide letter dated November 8, 1993: "To the extent operationally and fiscally practical, the DOD ought to augment its military SATCOM capabilities with both domestic and international commercial services."

In other words, when justified, the military services would be permitted to use commercial services as I read the letter.

Shouldn't it be the other way around; that the preference is to buy off the shelf?

Ms. CASTLEMAN. To the extent operationally and fiscally practicable——

Mr. VISCLOSKY. The policy is to procure commercial goods? Unless there is a military reason not to do it?

Ms. CASTLEMAN. Yes.

The first paragraph says "To the extent operationally and fiscally practical, the DOD will augment its military SATCOM capabilities with both domestic and international commercial services."

That had been going on for some time. This is the first policy which Mr. Paige sent out, that explicitly admitted to this use, which was particularly true in the Gulf War.

Mr. PAIGE. Most of our satellite communication services are provided by commercial. Most of our communication services that we utilize within the Department are commercially acquired.

Mr. VISCLOSKY. On the Acquisition programs that you have, looking at some of the accounts that have been coming across our desk, there are huge dropoffs in acquisition, literally from 1993 to 1994, a factor of 30,000 items per year to zero; 30,000 items to 6,000, a precipitous decline.

Are you seeing that in some of your Acquisition programs?

The point I would bring up is one of the conclusions I have been drawing on acquisition.

We have people coming up saying "Here is what we are asking for in 1994." But if you give us another $55 million, we could buy even more at reduced unit cost.

I sit here looking at the little money we have to tide over many priorities and say 'those days are gone.'

Why didn't you spend that time, instead of worrying where you are going to get another 55 million bucks, on how are you going to make that item more cheaply?

I am worried that inherent psychology of the system on both sides of the aisle, we have given money for 30,000 items last fiscal year and now we have nothing to do.

Have you seen that in some of your acquisition accounts?

Mr. HALL. On the intelligence side, we have problems, as you describe them.

For example, one of the programs we had for providing tactical forces with the capability to directly receive imagery data from sensors, called the JSIPS, we were originally planning on buying some in the neighborhood of around 40 of those systems and now our total plan for an acquisition is down to about 10.

This is over a five-year period, not from a year-to-year change.

Because of that, the unit price of the system goes up. given the downsizing and the force structure and so forth, there is little choice but to pay the extra price.

In the case of JSIPS, we are looking at a restructured program to go about it in a commercial, off-the-shelf, government off-the-shelf, as a way of reducing the cost as you suggest, look at ways to buy a reduced quantity at less cost.

But these end up being difficult choices. Most of the items in the intelligence arena we don't buy in large quantity any way because there are relatively few sensor systems that we need any we are usually in the neighborhood of 10 15 in the collection sense total buy on any collection system.

What you say is accurate in many programs.

Mr. PAIGE. I can't think of any programs within the C3I community where we are buying—were buying 30,000 and now we are going down to that extent.

Consumables, even this would not go down to that extent. If we are talking about consumables that would be used by infantry troops, artillery troops, in terms of artillery rounds or something of that nature, I could see how you could get to those large numbers.

Mr. VISCLOSKY. But it is not prevalent in your shop?

Mr. PAIGE. No.

Mr. VISCLOSKY. I would be opposed to anything other than a one-year appropriation cycle on the theory that my responsibility is to make those budget decisions.

Having said that and assuming that we will maintain a one-year status, I accept your comments and their sincerity.

If, for the record, given those yearly constraints that I think you will see in the foreseeable future, there are a couple of things you would want us to keep in mind as we are looking at those accounts, I certainly would appreciate your comments.

[The information follows:]

Clearly, I recognize the need for Congress to provide effective oversight. I would ask that we be allowed to retain fiscal continuity from year-to-year. Major yearly perturbations can significantly damage program development and fielding, particularly in the restrained budgets we are facing. Further, we ask to retain flexibility over how we can apply those resources. By this I mean that to be efficient, we need flexibility to permit acquisition change as technology allows. The technology explosion is moving so rapidly, that what once took many years, now is possible within a very few. By maintaining fiscal continuity and program flexibility, we should meet the future challenges within the constrained budgets that we need to work under.

Mr. VISCLOSKY. The final question is on the acquisition side within the Department, if there are one or two things that jump out that we ought to be taking a careful look at as far as the process internally on your side, if you could note that for the record, I would appreciate that.

Thank you, Mr. Chairman.

[The information follows:]

As the Secretary has outlined in a series of acquisition reform initiatives, the Department must ensure maximum use of scarce DoD resources to satisfy mission needs through reforming the processes of how we do business. To that end, I support the proposed Process Action Team to review the Defense Acquisition Board (DAB) of which I serve on as the Chair, C31 Systems Committee. This initiative will ensure that the DAB process through which major Defense systems are acquired, is responsive to the warfighters mission needs as well as the taxpayer. I would ask that you support this initiative.

Mr. MURTHA. Mr. Lewis?

ADVANCED TACTICAL AIRBORNE RECONNAISSANCE SYSTEM (ATARS) PROGRAM

Mr. LEWIS. Thank you, Mr. Chairman.

Mr. Paige, welcome. We appreciate your oversight as the U.S. transition through this changing world and theoretically the reduced confrontation between the East and West.

Some of us have specific interests, as Mr. Dicks indicated with his questions about UAV.

A number of members of the committee have expressed great interest in reconnaissance programs. I am interested in a letter written by Members on the ATARS program. The Intelligence Committee, as well as this subcommittee, would like a status on $7 million that was appropriated for ATARS. We understand that the funds will be released, however, there has been a delay within your shop.

Would you tell the committee the status of the funds? When can we expect the funds to be released?

Mr. HALL. Let me give you an answer and invite my staff to correct me.

We have processed requests and are working with the Comptroller to get the $7 million you are referring to released. I believe as of this date it is not—it is in the omnibus reprogramming.

The Department is looking for in its annual reprogramming to seek authority in that method, to move it from Air Force to Navy.

It was appropriated in Air Force and needs to be executed in Navy.

Last year the ATARS program was joint Air Force, Navy, and Marines. We have restructured the program where it is basically now Marine and Navy. The Air Force is out, but the moneys were provided in the Air Force budget so we have to have a vehicle that transfers it to the Navy and that will be in the omnibus reprogramming that you will be getting some time next month.

Mr. LEWIS. I have indication that perhaps the response back would be different than that, that perhaps there would be a negative response.

Mr. HALL. C31 proposed that in the omnibus reprogramming and we believe that it will make the cut.

Mr. LEWIS. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Darden?

MILSTAR PROGRAM

Mr. DARDEN. Thank you, Mr. Chairman.

I want to commend to the chairman of the committee and the panel in an article in this week's CQ that goes along the line of what Mr. Visclosky talked about; that Congress will save time and money by streamlining the Pentagon's purchasing system, which has long been the elevator music of congressional defense debates, ubiquitous, but inconsequential.

I am hoping it will be a little different this year. I am concerned about MILSTAR. How much money are we spending on MILSTAR? How is it coming along? Will we ever have a MILSTAR system?

Are we serious about putting in a system or is it just a project that is going to continue to go on for years and years?

Mr. PAIGE. We are, sir, absolutely serious about MILSTAR.

MILSTAR is important to us and hopefully there is no question anywhere within the Department as to whether or not we need MILSTAR or as a matter of fact whether or not we are going to continue.

Mr. DARDEN. How much money have we spent to date on MILSTAR?

Ms. CASTLEMAN. $9 billion has been spent on the program in total thus far. It has gone through several restructurings.

The original life cycle estimate was $40.7 billion. We have extensively downsized the constellation. The 20-year life cycle costs are now at $22.8 billion.

Mr. DARDEN. In what year dollars?

Ms. CASTLEMAN. Then-year dollars, from 1992 to 2011.

Mr. DARDEN. So you are saying that you expect the MILSTAR system to be completed, in place, and functional by what date?

Ms. CASTLEMAN. We have the MILSTAR I launch that just occurred February 7 of this year and the second MILSTAR I, which has what we call a low data rate payload will be launched next year.

MILSTAR II, which includes the low data and medium data rate payload, the Bottom-Up Review results were to procure four of those.

Mr. DICKS. One and two are low data rate and three through six are low and medium data rate?

Ms. CASTLEMAN. Right.

That will be launched in fiscal year 1999, and what the Bottom-Up Review decision was, and I think perhaps maybe your question alludes to this, because of all the restructuring and the fact that this was an advanced technology program, it does not have a long procurement cycle that might not be the case with other satellite programs.

The attempt made during the Bottom-Up Review was to see when we can do this in a cheaper fashion and still get all the MILSTAR II capabilities.

The Bottom-Up Review results were that, we would transition to a less expensive version yet meet all the same requirements. The question was when. It was a tough decision, but we came up with a decision saying we would transition to what we call an advanced EHF after 4 MILSTARS IIs were built.

We have asked for funding of $22.1 million in FY 1995 for the efforts to start looking at how do we transition. Look at the areas identified as high-risk areas in the Bottom-Up Review to enable us to transition to a smaller satellite that could fit on a medium lift launch vehicle.

Mr. DARDEN. What percentage completion of the system have we reached at this point?

Ms. CASTLEMAN. I would like to take that question for the record.

The medium data rate payload, I think, just completed a preliminary design review. It is proceeding, but I would like to get the exact dates because we have those.

[The information follows:]

The medium data rate (MDR) system Critical Design Review (CDR) is scheduled for October 1994. To date, we have completed approximately 50 percent of the non-recurring work on the MDR system, about 25 percent of the satellite #4 and all work on satellite #3 except for the MDR payload and its integration.

Mr. DARDEN. We have spent how much——

Ms. CASTLEMAN. Roughly $9 billion to date. You have to understand the program has gone through extensive reviews and downsizing. If you were to start today and say, “Let's design a MILSTAR,” you would do it differently. What has happened is you have taken payloads off and put payloads on.

There has been a lot of turmoil—perhaps that is too strong—it has not been your normal procurement because requirements have changed over time.

Mr. DARDEN. In light of the restructuring now, what is the stated mission of MILSTAR?

Mr. PAIGE. The mission hasn't changed. The mission of MILSTAR has not changed.

Mr. MURTHA. It has changed, but no over-the-horizon. Ten years ago, the original concept was over-the-horizon using seven or eight satellites.

What capability did those satellites have?

Ms. CASTLEMAN. We can answer that question simply. It is to employ protected anti-jam, low probability of intercept and detection capabilities that provide processed EHF to tactical and strategic users.

Mr. DARDEN. It anticipated some type of nuclear——

Ms. CASTLEMAN. We have taken out the heroic survivability, extensive nuclear hardening and ASAT capability to maneuver out of the way of a potential ASAT.

There are a lot of advantages in processed EHF.

EHF provides an inherent low probability of detection in part because it is a narrower beam. So for example, in special operations, if you are transmitting and don't want to be detected, it is good to have. If you are broadcasting at UHF, you are easily detectable because of its wider beam.

As you get to higher frequencies, and thus narrower beams, it becomes harder and harder to detect because you have to be within the beam of the user who is transmitting.

Also it is easier to put good anti-jam at the higher frequencies. There we can have a lot of anti-jam capability. We consider that the set of users that use MILSTAR are highly protected in that that signal will get through, that the communications will get through.

But for a broad set of users, you don't get as high capacity as you would get otherwise.

We rely on commercial, DSCS, and the other systems to make up for the shortfalls in capacity that we face. So that is why again it is important in the whole MILSAT communication architecture that you have this range of systems because they meet different needs.

Mr. DARDEN. Who in the Pentagon has responsibility for the success or failure and implementation of the MILSTAR program?

Ms. CASTLEMAN. The Air Force Program Office, SMC Space and Missile Center.

Brig. Gen. Len Kwiakowski is in charge of the program.

Mr. DICKS. Ultimately C3I is responsible.

Ms. CASTLEMAN. That is the program management. I misunderstood the question.

Mr. DARDEN. Ultimately it falls on you, Mr. Paige?

Mr. PAIGE. Yes, sir.

IMAGERY PROCESSING

Mr. DARDEN. How are we progressing in our imagery processing technology, digital technology, and so forth?

Mr. HALL. The Joint Services Imagery Processing Systems (JSIPS) is our imagery processing system of the future and that will provide a single joint service capability for deployed forces, Army, Air Force, Marine, Navy, to receive and process digitally radar and electrooptical imagery data.

We have a partial JSIPS capability fielded at Camp Pendleton with the Marines. The Army has a prototype system deployed with Fifth Corps in Germany and it is proceeding very well. ———.

I think the technology, we are in good shape and have the technology in hand.

We will be working on a way to use more commercial off-the-shelf, government off-the-shelf software as I alluded to in Mr. Visclosky's questions, but I think we are in good shape in that area.

Mr. DARDEN. Thank you very much.

Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Dicks.

MILSTAR PROGRAM

Mr. DICKS. Thank you. Going back to MILSTAR, in the Senate, there has been some opposition to MILSTAR that I think is basically misguided, in that the major attack is that this is kind of a "Cold War" system.

I think what they have forgotten is that three years ago, we restructured MILSTAR and it is now, I think, much more applicable to military users.

Isn't that right, Ms. Castleman?

Ms. CASTLEMAN. Yes.

The program was restructured and certainly with the medium-rate payload, it has been made more applicable to tactical users.

Mr. DICKS. Do the services strongly support MILSTAR?

Mr. PAIGE. Absolutely.

Mr. DICKS. And the only opposition within the administration came from the Air Force because it is in their budget?

Mr. PAIGE. From an operational point of view, the Air Force doesn't object. You hit the nail on the head. It is their budget. It is the top line.

Mr. DICKS. The problem is this is one of the "lessons learned" out of the Gulf War, that you needed to have secure communications and that we lacked this type of communications capability.

As I understand it, MILSTAR will go a long way to help us correct some of those understood deficiencies; is that correct?

Ms. CASTLEMAN. Mr. Dicks, when you ask about enough capability, I think what the Gulf War highlighted is that communications capability is very important.

We didn't during the Gulf War—fortunately, we were not jammed, but that does not mean that we do not have to have the capability to protect against anti-jam. There is always a tradeoff between anti-jam and capacity.

If you are looking strictly for data rate capacity, then you prefer not to provide anti-jam capability.

So the question is what level of communications absolutely has to be protected.

Processed EHF has a tremendous capability for all those reasons as I spoke to Mr. Darden earlier and that is what MILSTAR gives us.

So it provides protected communications, but I certainly would not want to rely strictly on MILSTAR. We need lots of data capacity rates—for example, two MILSTAR medium data rate payloads would give you eighty megabits per second during the Gulf War and we used something on the order of—

Mr. DICKS. I didn't mean to suggest we are going to use this exclusively, but MILSTAR does give you a secure, unjammable capability that we do not have enough of at this time.

Mr. PAIGE. It will provide the only capability to extend the Army's MSE and to provide facts from the sensor to the shooter on the move as well, has taken care of getting the information down through the MSE.

It provides us the capability that we were sorely deficient with in terms of being able to move the information from the sensor to a weapons platform to a commander in the vehicle out there no matter where he might be.

Mr. DICKS. Basically, the issue was do you stop this program after two satellites and have a gap or do you do the first six satellites so you get to the medium data rate, providing the EHF capability, and then, in the outyears, proceed to a smaller, lighter satellite that could be launched on a different systems at less expense, and hopefully take care of some of the criticisms that the Air Force had about the cost of the system?

Isn't that basically the game plan?

Ms. CASTLEMAN. Yes.

At the beginning of the Bottom-Up Review, we had the Technical Support Group look at this. It was very clear right from the start that there was agreement among all parties, for the reasons that you mention, that the processed EHF capability gave us something for our troops that was necessary.

The question then became how to do this in the most cost-effective manner. That was carefully looked at, particularly at what point could we transition to a cheaper version that still met all the same requirements.

That is why the decision was made. There was never dispute during the Bottom-Up Review about the need for this processed EHF capability. It was just a desire to do it in the most cost-effective way.

Mr. DICKS. So the Administration strongly supports going ahead with the first six satellites and starting now on a restructured program for a smaller satellite——

Ms. CASTLEMAN. With the same capability as MILSTAR II.

Mr. DICKS. A total of six, and the seventh satellite would be the new one?

Ms. CASTLEMAN. Yes.

Mr. DICKS. There are a number of people in the Senate—who are criticizing this program and I think, as I tried to suggest, that they are still looking at MILSTAR as it was before we restructured it.

We have gone through a whole process to try to eliminate a number of features that were very expensive and to add in capabilities to get the information to the tactical users, because those are important priorities to this Committee and to the Senate Armed Services Committee. I just want to make that point.

Mr. DARDEN. If the gentleman would yield.

I probably need to ask you this question: When do we start getting some capability from MILSTAR?

Mr. DICKS. We have the first satellite up.

Mr. DARDEN. What does Milstar provide to us now that we previously——

Mr. DICKS. You get a low data rate capability.

Ms. CASTLEMAN. Yes.

Right now they are testing. You will get 192 2.4 kbps channels.

Mr. DARDEN. For the nontechnical how does that translate into what we are able to accomplish as a result of having 192 channels?

Mr. DICKS. What do you get that you didn't have before?

Ms. CASTLEMAN. Highly protected communications in a way we have not had before.

Mr. PAIGE. And the ability to move that information at the low data from the sensor right on down to the shooter using MILSTAR.

Mr. DARDEN. How long have we had this capability?

Mr. PAIGE. We don't have it yet. We will have it when the satellite recently launched, when we get it into service.

If the world situation commands it, it will be cut to service real soon.

Mr. DICKS. This is an extraordinary increase in the capability that you have, isn't that correct?

Mr. PAIGE. Yes, sir.

Mr. DARDEN. Currently we have nothing operational yet as a result of our investment; is that correct?

Mr. PAIGE. That is correct, nothing operational yet.

Mr. DICKS. When would you make it operational under your plan?

Ms. CASTLEMAN. I would like to take that question for the record because there is an attempt now to move up the operational capability a little bit sooner.

[The information follows:]

Satellite #1 was successfully launched on February 7, 1994. It is now in development testing. The current schedule forecasts development testing to be complete in August 1994, followed by Phase I initial operational test and evaluation (IOT&E) and Phase II development testing. Formal declaration of initial operational capability (IOC) for this first processed extremely high frequency (EHF) satellite will occur after the launch and checkout of satellite #2, when satellite-to-satellite crosslink operations will be available.

Approximately one year (February 1995) after launch, we anticipate satellite #1 will be turned over to operations. We hope to accelerate the operational turnover of satellite #2, depending on testing progress and our ability to use the calibrations of satellite #1 for the operation of satellite #2. Calibration of the narrow beam, extremely high frequency (EHF) antennas at various locations on-orbit, under different solar conditions is an important element of verifying performance for the Milstar system.

Should the world situation necessitate, we would accelerate the operational loading of these satellites.

Mr. DICKS. Why is that?

Mr. PAIGE. As we look at the world situation, not only in Bosnia, but as we look at primarily Korea, we are looking, and if something happens there, it will stress our communications capability, both commercial, military, and otherwise and our intel capability to the max and we would need MILSTAR, the capabilities that MILSTAR offer at that particular point in time.

Mr. DICKS. Thank you.

Thank you, Mr. Chairman.

Mr. MURTHA. Let me just say to the panel, I don't know how long you have been over there, but this Committee terminated funding for MILSTAR four or five years ago because of the excesses in the Department—absolutely one of the worst-run programs we have ever seen.

Mr. Dicks and another Member—I think it was Mr. Young—were instrumental in getting it restructured. So we are careful. We realize the importance and you would like to have these programs funded for an extended period of time, but there is also some value in our looking at them every year.

I don't think MILSTAR would have survived if it had not been for the work of Mr. Dicks and the people he worked with in getting it restructured because of all the problems it had and the heat it was starting to get on the House Floor.

I appreciate the panel coming before the Committee. There will be additional questions for the record. The Committee will adjourn until 1:30 p.m.

[CLERK'S NOTE.—Questions submitted by Mr. Livingston and the answers thereto follow:]

DEFENSE DEPARTMENT DATA CENTER CONSOLIDATION

Question. Provide a breakout, by each megacenter, of any O&M, procurement, RDT&E, MILCON, minor MILCON, BRAC, DBOF or other funds currently budgeted for the DoD Data Center Consolidation as approved by the Defense Base Closure and Realignment Commission and as outlined in the January 31, 1994 (or any subsequent) Baseline Implementation Plan. Provide a breakout by fiscal year, including fiscal year 1995 and a listing of funds by account of any new budget authority.

Answer. All funds currently budgeted for the DoD Center Consolidation are Base Realignment and Closures (BRAC) funds. The following listing provides the breakout of funds by megacenter. The funding shown under each megacenter includes BRAC funds required at the corresponding legacy sites. Defense Information Systems Agency (DISA) has currently received BRAC funds for FY 1994 only. This summary does not include recision of $35M for FY 1994. This amount will be reduced from capital purchase upon completion of review of requirements.

Megacenter	**FY94**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**Total**
	(Dollars in Millions)						
DMC Chambersburg							
One Time Implementation	1.711	7.299	7.873	5.290	0.081	0.000	22.254
Capital Purchase *	0.000	33.789	1.232	0.000	0.000	0.000	35.021
Total	1.711	41.088	9.105	5.290	0.081	0.000	57.275
DMC Columbus							
One Time Implementation	5.962	8.948	12.847	2.889	0.129	0.000	30.775
Capital Purchase *	3.945	6.704	6.554	0.000	0.000	0.000	17.202
Total	9.907	15.652	19.400	2.889	0.129	0.000	47.977
DMC Denver							
One Time Implementation	2.799	3.133	3.838	0.389	0.040	0.000	10.199
Capital Purchase *	10.521	5.694	5.000	0.000	0.000	0.000	21.216
Total	13.320	8.827	8.838	0.389	0.040	0.000	31.414
DMC Montgomery							
One Time Implementation	0.470	0.912	0.782	0.081	0.018	0.000	2.263
Capital Purchase *	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.470	0.912	0.782	0.081	0.018	0.000	2.263
DMC Ogden							
One Time Implementation	1.808	1.899	2.148	0.114	0.028	0.000	5.997
Capital Purchase *	2.255	1.000	1.000	0.000	0.000	0.000	4.255
Total	4.063	2.899	3.148	0.114	0.028	0.000	10.252

Megacenter	FY94	FY95	FY96	FY97	FY98	FY99	Total
	(Dollars in Millions)						
DMC Huntsville							
One Time Implementation	0.359	0.927	1.340	0.081	0.018	0.000	2.725
Capital Purchase *	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.359	0.927	1.340	0.081	0.018	0.000	2.725
DMC Jacksonville							
One Time Implementation	1.531	7.394	10.049	3.122	1.129	0.000	23.225
Capital Purchase *	8.524	3.304	2.862	1.516	0.009	0.000	16.214
Total	10.054	10.698	12.911	4.638	1.138	0.000	39.439
DMC San Antonio							
One Time Implementation	0.589	4.042	5.436	1.463	0.037	0.000	11.568
Capital Purchase *	2.473	18.726	0.000	0.000	0.000	0.000	21.198
Total	3.062	22.768	5.436	1.463	0.037	0.000	32.766
DMC Sacramento							
One Time Implementation	3.055	4.821	4.584	2.208	0.483	0.000	15.151
Capital Purchase *	2.223	0.000	4.170	0.517	0.000	0.000	6.909
Total	5.278	4.821	8.754	2.724	0.483	0.000	22.060
DMC Mechanicsburg							
One Time Implementation	3.829	10.251	10.655	6.367	0.414	0.000	31.516
Capital Purchase *	13.356	6.476	5.355	1.602	0.000	0.000	26.790
Total	17.185	16.727	16.010	7.969	0.414	0.000	58.305
DMC Rock Island							
One Time Implementation	0.359	0.937	1.237	0.081	0.018	0.000	2.632
Capital Purchase *	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.359	0.937	1.237	0.081	0.018	0.000	2.632
DMC San Diego							
One Time Implementation	1.191	7.938	15.220	5.872	1.016	0.000	31.237
Capital Purchase *	8.270	1.447	3.261	1.519	0.000	0.000	14.497
Total	9.461	9.385	18.481	7.391	1.016	0.000	45.734
DMC St Louis							
One Time Implementation	1.719	6.186	7.798	3.116	0.557	0.000	19.376
Capital Purchase *	0.000	17.621	0.257	0.000	0.000	0.000	17.878
Total	1.719	23.807	8.055	3.116	0.557	0.000	37.254

Megacenter	**FY94**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**Total**
	(Dollars in Millions)						
DMC Oklahoma City							
One Time Implementation	0.359	0.950	1.865	0.081	0.018	0.000	3.273
Capital Purchase *	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.359	0.950	1.865	0.081	0.018	0.000	3.273
DMC Warner Robins							
One Time Implementation	0.359	0.941	1.304	0.081	0.018	0.000	2.703
Capital Purchase *	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.359	0.941	1.304	0.081	0.018	0.000	2.703
DMC Dayton							
One Time Implementation	1.334	9.666	4.434	2.212	0.087	0.000	17.733
Capital Purchase *	0.000	3.595	0.000	0.000	0.000	0.000	3.595
Total	1.334	13.261	4.434	2.212	0.087	0.000	21.328
Total One Time Implementation	27.434	76.243	91.410	33.447	4.091	0.000	232.625
Total Capital Purchase	51.566	98.357	29.690	5.153	0.009	0.000	184.775
Total Budget Submission	79.000	174.600	121.100	38.600	4.100	0.000	417.400
Total One Time Implementation	27.434	76.243	91.410	33.447	4.091	0.000	232.625
Total Capital Purchase	16.536	98.357	29.690	5.153	0.009	0.000	149.745
Total (Incl Recision)	43.970	174.600	121.100	38.600	4.100	0.000	382.370
Total (Incl Recision w/o Inflation)	43.970	169.711	112.986	34.624	3.542	0.000	364.834

* Capital purchases in DBOF are depreciated over a five year schedule, and depreciation expense is included in customer rates.

Question. Provide the same breakout (in terms of accounts) for the total funds requested or budgeted in FY95 for DISA (Defense Information Systems Agency) and DISO (Defense Information Services Organization) to implement the DoD Data Center Consolidation.

Answer. BRAC funds as broken out on the previous spreadsheet include all funds budgeted by DISA and DISO to implement DoD Data Center Consolidation. Thus, all DoD funding for Data Center Consolidation is funded by BRAC and is budgeted by DISA/DISO.

Question. Provide a listing and amount, by the accounts listed in question number one, of the total funds requested in FY95 for DISA as well as the same listing for fiscal years 1993 and 1994 of the funds actually provided to DISA. Include a separate personnel (FTE) total for DISA in each of the fiscal years.

Answer. DISA funding for FY 1993 and FY 1994, and the FY 1995 budget request by account are as follows:

		Fiscal year—		
		1993	1994	1995
O&M		507,328	494,008	557,439
Procurement		82,048	49,682	83,283
RDT&E		91,753	88,292	79,865
MILCON				
BRAC			43,970	174,600
DBOF Authority				
	Operating	1,601,900	1,924,500	1,979,600
	Capital	104,800	183,400	155,800
Personnel (FTE)				
	Civilian	5,322	9,071	8,263
	Military	2,141	3,335	2,999

Question. What funds in fiscal year 1995 have been requested or budgeted to implement data center consolidations or other CIM (Corporate Information Management) initiatives other than the BRAC approved DoD Data Center Consolidation? Provide a listing and funding by each account.

Answer. No funds other than BRAC funds have been requested or budgeted in FY 1995 to implement data center consolidations. We have requested no additional funds for CIM initiatives.

Question. What is the current total outyear cost for the DOD Data Center Consolidation as approved by the Defense Base Closure and Realignment Commission? Provide a breakout by fiscal year.

Answer. The current total cost for DOD Data Center Consolidation for FY 1994–99 is shown below. These amounts include the total cost of implementation. Costs included in the budget that were not reflected in the Cost of Base Realignment Analysis (COBRA) is carried out as part of the BRAC process ($309M) cover support functions such as capacity planning, configuration management, executive software standards, continuity of operations and additional travel costs required to monitor and direct these support functions. The total cost for implementation in the January Budget submission as reflected on the summary below also includes inflation as directed by OSD. The COBRA analysis carried out as part of the BRAC process did not include inflation. The summary below shows current totals adjusted to reflect the FY 1994 recision of

BRAC funds, and the FY 1995–99 budget figures without inflation. These revisions show a total cost of $365M for DOD Data Center Consolidation.

[In millions of dollars]

	Fiscal year—						Total
	1994	1995	1996	1997	1998	1999	
Total One Time Implementation	27.434	76.243	91.410	33.447	4.091	0.000	232.625
Total Capital Purchase[1]	16.536	98.357	29.690	5.153	0.009	0.000	149.745
Total (Incl Recision)	43.970	174.600	121.100	38.600	4.100	0.000	382.370
Total (Incl Recision w/o Inflation)	43.970	169.711	112.986	34.624	3.542	0.000	364.834

[1] Capital purchase in DBOF are depreciated over a five year schedule, and depreciation expense is included in customer rates.

Question. The Baseline Implementation Plan (BIP) dated January 31, 1994 for the DOD Datacenter Consolidation was developed by the BRAC/Megacenter Consolidation Office, Defense Information Service Organization (DISO), Defense Information Services Agency (DISA). This January 31, 1994 Plan, pages 31–32 provided a ranking of data center sites to be disestablished (as approved in the BRAC process) in descending order of annual operating costs. Those sites with the highest operating costs were listed first and in descending order to the data center site with the lowest annual operation costs (Page 32, figure 4–1). Annual operating costs as determined in this Plan "represented the sum of the non-labor costs and the labor costs" of each site. Provide for the record a revised DOD data center site ranking that includes the same sites listed on page 32 of the Plan, the six sites previously restricted by Section 9047 of the FY93 Appropriations Act, and the 16 sites approved in the BRAC process as future megacenter sites: (1) using the same criteria for annual operating costs, site location/description, total annual cost, and ranking in the same fashion as listed and described above on page 32 of January 31st BIP.

Answer. The revised ranking of sites, including 9047 sites and designated megacenters is shown below.

SITE	TOTAL ($M)	RANK
NCTS WASHINGTON, DC	37.198	1
DITSO COLUMBUS IPC, OH (DMC)	35.100	2
DITSO DENVER, CO (DMC)	35.100	3
AIPC ROCK ISLAND, IL (DMC)	32.900	4
RPC TINKER AFB, OK (DMC)	25.400	5
AIPC HUNTSVILLE, AL (DMC)	24.500	6
DITSO INDIANAPOLIS IPC, IN	22.254	7
SPCC MECHANICSBURG, PA (DMC)	20.400	8
RPC HILL AFB, UT (DMC)	18.700	9
AIPC CHAMBERSBURG, PA (DMC)	17.800	10
AIPC ST LOUIS, MO (DMC)	17.700	11
NCTS PENSACOLA, FL	15.851	12
IPC PHILADELPHIA, PA	15.442	13
RPC KELLY AFB, TX (DMC)	15.100	14
ASO PHILADELPHIA, PA	13.785	15
NCTS JACKSONVILLE, FL (DMC)	13.459	16
BUPERS ARLINGTON, VA	13.277	17
NCTAMSLANT NORFOLK, VA	13.012	18
NCTS SAN DIEGO, CA (DMC)	12.948	19
RPC WARNER-ROBINS AFB, GA (DMC)	12.900	20
DITSO CLEVELAND IPC, OH	12.022	21
IPC BATTLE CREEK, MI	11.113	22
RPC WRIGHT-PATTERSON AFB, OH (DMC)	11.100	23
7TH CG, PENTAGON, VA	11.096	24
IPC RICHMOND, VA	10.772	25

SITE	TOTAL ($M)	RANK
DITSO KANSAS CITY IPC, KS	10.660	26
HQ AFMPC RANDOLPH AFB, TX	10.114	27
RPC MCCLELLAN AFB, CA (DMC)	9.900	28
NARDAC SAN FRANCISCO, CA	9.737	29
FISC NORFOLK, VA	9.564	30
NAWC/AD PATUXENT RIVER, MD	9.380	31
IPC OGDEN, UT	9.173	32
CPSC SAN ANTONIO, TX	9.139	33
FISC SAN DIEGO, CA	7.580	34
FISC CHARLESTON, SC	7.238	35
NCTS NEW ORLEANS, LA	6.936	36
RPC GUNTER ANNEX, AL (DMC)	6.800	37
FISC PUGET SOUND, WA	5.690	38
DITSO DAYTON IPC, OH	5.325	39
MCAS CHERRY POINT, NC	5.325	40
FACSO PORT HUENEME, CA	4.668	41
FISC PEARL HARBOR, HI	4.047	42
RASC CAMP LEJUNE, NC	2.856	43
PMTC POINT MUGU, CA	2.719	44
EPMAC NEW ORLEANS, LA	2.682	45
NWWC CHINA LAKE, CA	2.289	46
RASC CAMP PENDELTON, CA	1.982	47
MCAS EL TORO, CA	1.964	48
NCTAMSEATPAC PEARL HARBOR, HI	1.814	49
NCCOSC SAN DIEGO, CA	1.621	50
TRF KINGS BAY, GA	1.469	51
TRF BANGOR, WA	1.412	52
NAS OCEANA, VA	1.010	53
NAS WHIDBEY ISLAND, WA	0.956	54
CRUITCOM ARLINGTON, VA	0.618	55
NAS KEY WEST, FL	0.573	56
NAS BRUNSWICK, ME	0.209	57
NAS MAYPORT, FL	0.205	58

NOTE: Total costs have been updated where appropriate based on budget data.

Question. Provide for the record the total amount of contractor services DISA has contracted for in FY 1993, FY 1994. What is the amount planned for contractor services in the FY1995 budget request?

[CLERK'S NOTE.—The Department was unable to provide a response in time to be printed in this hearing volume.]

Question. Provide a detailed status report on DMRD 918.

Answer. DMRD 918 was simply a starting point for the orderly implementation of a more effective and efficient Defense Information Infrastructure. In 1993, a number of decisions were made to change the strategies for:

(1) revolutionizing information exchange, Defense-wide

(2) strengthening our ability to apply computing, communications, and information management capabilities effectively to the accomplishment of the Department's mission

(3) significantly reducing the information technology burdens on operational and functions staffs

(4) achieving this new paradigm shift.

First, the decision was made to include the data center consolidations in the 1993 Base Closure and Realignment (BRAC) process. The Department's recommendation to consolidate 59 data centers into 16 DOD megacenters was ultimately approved by the President and the Congress.

Secondly, the Assistant Secretary of Defense (C3I) in consultation with the Deputy Secretary of Defense directed further review and study of the Department's implementation of the DII, and directed that procurement/acquisition, communications (less the Defense Information Systems Network (DISN)) and engineering activities, and central design activities revert back to the Services and Agencies. Consolidation and centralization of data centers, standards, security, as well as DISN candidate communication network assets, under Defense Information Systems Agency (DISA), were to proceed.

The study was recently completed. It provides an executable set of actions for proceeding with the management of an orderly implementation of the DII, the next steps beyond DMRD 918, as well as the implementation of the Corporate Information Management (CIM) initiative. A follow-on action plan for the study recommendations is being coordinated. Subsequently, the Assistant Secretary of Defense (C3I) will review and approve the resultant action plan.

Thirdly, consistent with the direction of the Assistant Secretary of Defense (C3I), dated June 28, 1993, actions were initiated to realign and assign the central design activities (CDAs) of the Military Departments and the Defense Logistics Agency (DLA) in support of wholesale logistics systems to the ownership and control of the Joint Logistics Systems Center (JLSC). Similarly, CDAs in support of the Defense Finance and Accounting Service (DFAS) were to be realigned and assigned to the ownership and control of DFAS.

The June 28 decision as it relates to CDAs in support of DFAS remains in effect. With regard to logistics CDAs, the June 28 decision precipitated an in-depth review of all aspects of logistics CDA responsibilities, organization, and funding. Based on this review as well as others, the June 28 direction to transfer all logistics CDAs to JLSC was rescinded in October 1993. This latter decision was made jointly by the Deputy Under Secretary of Defense (Logistics) and the Assistant Secretary of Defense (C3I).

Question. Mr. Secretary, what follow on decisions relating to DMRD 918 or the CIM initiative have been taken since then Deputy Secretary Perry's May 7, 1993 memorandum to place some DMRD 918 activities on hold pending further review and study action, and your June 28, 1993 Defense Information Infrastructure Memorandum?

Answer. There have been three key decisions since June 28, 1993 which will have a significant impact on the implementation of Corporate Information Management and the Defense Information Infrastructure. First, Booz, Allen & Hamilton has conducted the study called for in the May 7 Deputy Secretary of Defense memorandum. This study, Defense Information Management Follow-on Action Study, has been completed and a follow-on action plan is currently being coordinated.

Secondly, the Deputy Under Secretary of Defense (Logistics) and the Assistant Secretary of Defense (C31) jointly made the decision to rescind the original direction to realign and assign central design activities in support of wholesale logistics to the Joint Logistics Systems Center; alternatively, these CDAs are remaining with the Military Departments and the Defense Logistics Agency.

Thirdly, Deputy Secretary Perry (now Secretary Perry) greatly accelerated the pace for implementing migration systems, data standards, and business process improvements. The goal is to accomplish the transition to selected migration systems and the completion of data standardization within the next three years.

Question. DoD's February, 1993, estimate for DMRD 918 was $4.5 billion from FY94–99. What is DoD's current estimate? What savings will be actually realized in FY94?

Answer. The DMRD 918 Resources Plan was approved by the Deputy Secretary of Defense on December 2, 1992. This Plan projected $8.2 billion gross savings, for FY 1995–1999, from the implementation of DMRD 918, of which $3.7 billion would be reinvested in the infrastructure. Consequently, the net savings were projected to be $4.5 billion. In essence, there is no significant change from our original savings and investment estimates; there are no savings in FY 1994.

The Information Technology Budget over the FY 1993–1999 time frame, prior to applying our information management initiatives (e.g., DMRDs 918, 924, 925, etc.) would have been about $85 billion. The current profile is now reflecting the $4.5 billion savings from our information management DMRDs as well as additional reductions applied by the Services and Agencies.

Our investment requirements have not changed either. We still need to modernize our bases to support the Department's Projection Strategy; and we still need to strengthen our ability to effectively apply computing, communications, and information management capabilities to accomplish the DoD mission.

Question. What savings are attributed or included in the FY 1995 request for DMRD 918, other DMR initiatives, and CIM? Provide a breakout by initiative.

Answer. A breakout of FY 1995 savings for DMRDs 918, 924, and 925 is provided below.

Fiscal year 1995 net savings

[In millions of dollars]

DMRD 918	[1] 0
DMRD 924	393
DMRD 925	600

[1] Note: These net savings are reflected in the DMRD 918 Resources Plan as approved by the Deputy Secretary of Defense on December 2, 1992. They are based on the specific consolidation and centralization strategy depicted in the DMRD and associated implementation plan. While our objective for the Defense Information Infrastructure remains the same, our strategy for achieving this objective has changed.

With the exception of DMRD 918, for all other DMRDs, the Department now estimates DMRD FY 1991–1997 savings to be $52 billion of which $9 billion is attributable to FY 1995 savings. These are only estimates because, consistent with the Odeen Panel's recommendations, the Department no longer tracks DMRD savings.

Question. Provide the O&M, procurement (and RDT&E, if any) funding requests by service or department for CIM in FY 1995.

Answer. The CIM Central Fund provides for funds data standardization, business processing reengineering, IT standards and policies, and migration system selection analyses. Services and agencies develop requests for CIM projects through the OSD Principle Staff Assistant. The DISA fund supports the implementation of standards, development of open system requirements, architectures, repositories of software, data, and process models. DISA also provides for training activities and technical enterprise integration activities.

A breakout, by appropriation, of the Office of the Secretary of Defense (OSD) Corporate Information Management (CIM) Central Fund, and the Defense Information Systems Agency (DISA) CIM Fund requests for FY 1995 is provided below.

[In millions of dollars]

OSD CIM central fund:	
O&M	130
PROC	11
RDT&E	0
Total	141
DISA CIM central fund:	
O&M	147
PROC	29
RDT&E	0
Total	176

Question. Provide a listing (including proposed decision date) of standards activities or migration system decisions (either by service or DoD) that are currently planned for the remainder of FY 1994 and for FY 1995.

Answer. Key milestone dates for both standards activities and migration systems activities are provided below.

Milestone	Date
Report progress on migration system selections to Assistant Secretary of Defense (C3I)	April/May 1994.
Report progress on migration systems selections and transitions to Deputy Secretary of Defense	Periodic.
Approve DoD 8320.1–M, Data Administration Procedures for issuance	May 1994.
Issue procedures and guidelines for re-engineering data	September 1994.
Design, develop, and publicize data migration and integration strategies	September 1994.
Approve subset of initial Starter Set of DoD standard data elements	September 1994.

Milestone	Date
Approve additional subset of data elements from Financial, Command and control, Personnel and Readiness, and Logistics.	September 1994
Improve the quality of data in at least, 25 percent of migration systems	September 1995.
Approve additional subsets of data elements from other functional areas	September 1995.
Train 50 percent of data administration personnel	September 1995.

Question. In September, 1993, the Air Force identified to your office several areas of concern regarding the implementation of CIM including the transfer of logistics related CDAs (central design activities) and the selection of migration systems under CIM. The Air Force stated that:

> the primary focus of these organizational alignment efforts appears to be ownership and control of the CDAs as well as reducing the size of the organic personnel in the organizations. Very little attention seems to be directed to the task that the CDAs perform: the development (acquisition) and support of automated systems that improve the efficiency of the Department. * * *
>
> * * *Guidelines for selecting migration systems and developing economic and technical evaluations have been interpreted in many different ways. Business process improvement seems to have been pushed aside in favor of standardization as the primary CIM objective, yet the real savings are in process improvements.

What is being done to correct these problems and to evaluate and pick migration systems and consolidation strategies that make business and cost sense and do not impair operational readiness?

Answer. The Department has many challenges ahead with regard to implementing Corporate Information Management and strengthening the Defense Information Infrastructure. However, the direction, as articulated by the Secretary of Defense and the Assistant Secretary of Defense (C3I) is clear.

Secretary Perry has stated:

> * * * we must accelerate the pace at which we define standard baseline process and data requirements, select and deploy migration systems, implement data standardization, and conduct functional process improvement reviews and assessments (business process re-engineering) within and across all functions * * *"
>
> * * * Ongoing information management initiatives such as functional process improvement projects, functional and technical integration analysis and planning, and software engineering methods modernization should continue on an expedited basis. However, completion of these current initiatives will not be prerequisites to implementation of the migration system and data standards acceleration strategy * * *

The functional communities are in varying stages of the implementation process. Some have conducted extensive business process improvements (BPIs); others have only conducted limited BPIs. Some have fully justified approaches based on functional economic analyses, while others need more justification.

The emphasis is not on dictating the order in which actions should be taken in a multi-step process; rather, we are seeking to define the steps that must be taken and provide the functional communities the flexibility to execute these steps in a sequence consistent with (1) the Secretary's direction, and (2) the functional communities' environs as well as where the functionals are in the implementation process. This is a practical approach that does not emphasize one step over another.

With regard to central design activities, (CDAs), they exist only to support functional areas (e.g., logistics, finance, etc.) Consequently, the appropriate placement of CDAs should be dictated by what makes sense, particularly, in terms of mission support. As decisions are made on which legacy systems to continue and which ones to terminate, decisions on what to do with the associated CDAs will be made accordingly. The elimination of legacy systems will substantially dictate our decisions regarding CDAs to include their centralization, consolidation, or even their elimination. In meantime, the current ownership and control of CDAs are essentially as they existed prior to DMRD 918.

[CLERK'S NOTE:—End of questions submitted by Mr. Livingston. Questions submitted for the record and the answers thereto follow:]

Question. Your request for C3I programs totals $50.6 billion in fiscal year 1995. That obviously encompasses many hundreds of programs. However, in previous years the top DoD leadership of both the current and previous administrations seem to have agreed that fielding of MILSTAR and replacement of the DSP early warning system are the top C3I priorities. For fiscal year 1995, what would you characterize as DoD's highest priority C3I programs?

Answer. The top C3I priorities and the programs in support of these priorities all address more effective management of the forces in peace or war. Their focus is on supporting the warfighter's global role and mission in the most cost-effective manner. For fiscal year 1995, these priorities include:

Modernizing the C3I infrastructure to provide protected, interoperable and cost-effective information transfer. Efforts such as the Defense Information System Network (DISN) and its associated Defense Message System (DMS) and information systems security (INFOSEC) programs are core components for meeting this priority.

Ensuring that our C3I capabilities are more flexible and are fully capable of supporting potential regional conflicts of the future. These conflicts would likely involve joint operations with coalition partners. The Joint Tactical Information Distribution System (JTIDS), Single Channel Ground and Airborne Radio System (SINCGARS), Airborne Warning and Control System (AWACS), and Navstar Global Positioning System (GPS) remain essential in fulfilling the C3I requirements of potential regional conflicts. Additionally, programs in support of improved combat identification have a high priority. Intelligence systems remain a high priority where we have focused management attention and oversight of airborne reconnaissance through the creation of the Defense Airborne Reconnaissance Program. Furthermore, efforts are underway in the area of intelligence systems interoperabilty to allow for the migration of selected intelligence systems to a DoD standard profile.

Breaking down the artificial boundaries that exist between our C3I systems and moving to C3I systems that are capable of fulfilling a range of mission requirements. Examples of programs that support this priority are the MILSTAR system, now capable of addressing both tactical and strategic C3 requirements, and the future Alert, Locate and Report Missiles (ALARM) program which focuses on the detection of the tactical ballistic missile threat.

Finally, eliminating non-value added work and its associated costs and improving the standardization, quality, and consistency of data from DoD's multiple management information systems through the Corporate Information Management (CIM) initiative. In order to offset declining defense resources, DoD is accelerating the pace of defining standard baseline process and data requirements, selecting and deploying migration systems, implementing data standardization, and conducting functional process improvement reviews and assessments within and across all functions of the Department. The acceleration of these actions is key to containing the functional costs of performing the DoD mission within the constrained defense budget.

Question. Historically the Assistant Secretary for C3I has been responsible for all phases of DoD C3I program policy, acquisition, and operation. However, the Under Secretary for Acquisition not only appears to be making all of the acquisition decisions, but it also now has direct responsibility for all airborne reconnaissance programs. In addition, a new Intelligence Systems Board has been created which has responsibility for intelligence issues. Why does it appear the many of your historical responsibilities are being transferred elsewhere?

Answer. In point of fact they are not being transferred. Indeed, I believe the ASD(C3I)'s role has been considerably strengthened through the process that has been established.

For example, the Intelligence Systems Board (ISB) is an outgrowth of the Intelligence Systems Council (ISC) that had been established by the ASD(C3I) office to focus on DoD interoperability issues. Using the ISC as a basis, the ISB was created by the Deputy Secretary of Defense and the Director of Central Intelligence (DCI) to ensure that jointly we address the critical issue of interoperability. This Board is co-chaired by my DASD (Intelligence and Security) and the DCI's Executive Director for Intelligence Community Affairs and reports to me on DoD-related matters that require resolution. The ISB allows us to corporately address serious interoperability issues in a more efficient and effective manner. Further, it provides me with a mechanism to bring about needed change. For example, I am using the Board to develop an ADP intelligence systems migration strategy and plan to reduce the number of ADP intelligence systems currently in the DoD inventory, retaining only those that are essential. This effort will ultimately result in significant savings and improved responsiveness when implemented over the coming years.

With regards to airborne reconnaissance, previously, direct oversight of these programs was scattered throughout the Department, although the ASD(C3I) office did have general oversight through the TIARA process. By this I mean that many of the systems consolidated under the Defense Airborne Reconnaissance Program

(DARP) were in fact assigned to OSD offices other than OASD(C3I) for primary oversight. This meant we had to work separately with each of these offices to align or change programs which often proved cumbersome and inefficient. Today, with creation of DARP and DARO, oversight is much more effective and streamlined, since consolidation of the systems program management allows greater efficiency. The Deputy Director for DARO is from my staff who provides us an important direct link for day-to-day activities that had not previously existed under the old management approach. As a result of bringing all offices together, the Department has fashioned a much more capable and coordinated program than existed previously—one that is affordable and executable.

Question. Because of the unique nature of C3I programs, the Congress has always retained a separate assistant secretary. With these changes, do you believe you have sufficient authority to provide vigorous oversight of these programs?

Answer. Most definitely. When I accepted the position of ASD(C3I), it was with the purpose to aggressively pursue needed change to better support our ultimate consumer—the military commander. In this, I believe that we have been initially successful in doing. I believe the management structure is now more focused on critical issues and shortfalls and, accordingly, the role of my office has been considerably strengthened as a result.

For example, as I mentioned earlier, we have instituted a joint NFIP and TIARA review process that better integrates intelligence capabilities than previously possible. As a result, the Department's budget submission reflects needed changes and new activities (imagery dissemination efforts, funded interoperability activities, and airborne consolidation under DARP/DARO as examples) from this process. In each case, this office led or was instrumental in bringing about these changes. We presently are addressing needed short term fixes in current or potential "hot spots" of the world which will be included in the Department's omnibus reprogramming request that will be forwarded to you shortly and for which I request your support. In this and other areas we have been proactive in directly addressing issues and developing needed solutions and will continue to do so.

JOINT REVIEW PROCESS

Question. DoD and the Director of Central Intelligence are integrating the oversight and management of intelligence programs. The Committee is aware that DoD and the Director of Central Intelligence are in the process of establishing the Joint Military Intelligence Program. What is the Joint Military Intelligence Program?

Answer. Pursuant to discussions between the Director of Central Intelligence (DCI) and the then Deputy Secretary of Defense, Mr. Perry, the Joint Military Intelligence Program (JMIP) was created to improve the management of Defense-wide intelligence resources. Defense-wide resources are those capabilities needed to provide intelligence support to multiple uses and across service lines to facilitate the conduct of joint operations. The primary goal in establishing the JMIP is to improve intelligence support for joint, Defense-wide operations.

The JMIP will provide efficiencies in program management, align decision authority with the customer served, and establish single program managers or coordinators, where possible. It is essential to institute a management system to oversee programs intended for multiple users, joint operations, and/or cross-service support, to ensure genuine responsiveness to the requirements of those who are to be supported and to enforce the concepts of commonality and interoperability. The Joint Military Intelligence Program (JMIP) is intended to assume this role with a number of the highest level military and civilian managers personally involved in reviewing requirements, setting priorities, furnishing guidance and participating in the decision and oversight processes.

Question. How will Joint Military Intelligence activities that are currently tactical intelligence activities be funded?

Answer. When activities are designated for assignment to the Joint Military Intelligence Program (JMIP), their currently approved resources, both program and budget, are moved into the JMIP. In future program and budget cycles, the JMIP will be allocated specific fiscal guidance. Once resources have been approved for a JMIP activity they may not be altered without approval from the Program Executive.

Question What do you think are the pros and cons of establishing the Joint Military Intelligence Program?

Answer. The immediate pros are that the JMIP will provide efficiencies in program management, align decision authority with the customer served, and establish single program managers or coordinators where possible. The JMIP management profess augmented by the newly established Defense Intelligence Executive Board will serve to improve the effectiveness of the Defense-wide programs involved and result in a more efficient allocation of available resources.

There may be some cons that remain to be discovered. However, in the development of the process we attempted to identify and rectify any elements that would be contrary to achievement of the desired results.

Question. Who will be responsible for establishing the requirements, reviewing the capabilities and making trade-offs for the Joint Military Intelligence Program?

Answer. The responsibility will rest with the Deputy Secretary of Defense, who serves as the Program Executive for the JMIP. Requirements review/approval and identification of trade-offs involves a series of organizations or personalities, including the traditional program managers, the ASD(C3I), the Joint Staff, the Director, Defense Intelligence Agency (DIA), and the newly established Defense Intelligence Executive Board.

Question. Through the joint review process national and tactical programs are scrubbed to determine the optimum use and mix of resources. You describe the first steps of the joint review process as successful. What were the first steps of the joint review process?

Answer. Issuance to both national and Defense intelligence elements for the first time of Joint National Foreign Intelligence Program (NFIP) and Tactical Intelligence and Related Activities (TIARA) Program and Planning Guidance by the Deputy Secretary of Defense and the Director of Central Intelligence. Further, use of joint reviews to focus on critical issues that affect both Defense and national components, such as interoperability and imagery dissemination. These joint reviews resulted in important changes for intelligence.

Question. How did you make trade-offs between national and tactical systems?

Answer. Through the joint review process, we evaluated needs and capabilities. Where appropriate, changes in fiscal and manpower levels were made. We attempted to stay within overall FY 1994 fiscal levels for NFIP and TIARA combined. While not totally successful due to last minute adjustments the TIARA aggregation, funding was reduced in both NFIP and TIARA to try to achieve this goal. We realigned airborne and space capabilities so that more effective management and focused responsibilities would be achieved.

In summary, we looked across both NFIP and TIARA and adjusted resources so that we could best achieve a complementary set for capabilities under an improved, focused management structure to meet the most critical needs.

Question. What criteria did you use to measure the success of the joint review?

Answer: The success of the joint review was measured by the changes that addressed critical shortfalls in needed capabilities. For example, the joint review process did the following:

> Implemented an imagery dissemination capability: Moved towards a client-server environment for users to easily access regional imagery archives; Funding identified in both NFIP and TIARA.
>
> Established the Intelligence Systems Board: Chartered to assure the functional integration and interoperability of communications and information handling system with the NFIP and TIARA; Funding to initiate fixes and upgrades provided in both NFIP and TIARA.
>
> Created the Defense HUMINT Service (DHS) as a field operating activity under DIA which consolidated Services activities.
>
> Expanded the Nonproliferation Center by creation of Deputy Directorate for Military Support to ensure support for Military Requirements associated with counterproliferation; Manpower added by Defense.
>
> Realigned airborne and space assets to focus responsibility for airborne within Defense and space within the NFIP: Consolidated responsibilities; Single point management, execution, and accountability.
>
> Reduced outyear civilian manpower levels in Defense Agencies consistent with overall Defense reductions.

READINESS

Question. It is our understanding that the Services are barely maintaining their C3I systems. Do you believe that the Services are maintaining their C3I systems in a high state of readiness?

Answer. I believe the Services are attempting, with considerable success, to maintain the readiness of their C3I systems. Budget constraints, of course, can have a detrimental impact on readiness, but it is our goal to have the systems as ready as possible to provide the support necessary to the combatant commands when it is needed.

Question. How are you forcing the Services to properly maintain C3I systems?

Answer. One of the major functions of the OASD(C3I) is oversight of the C3I systems of the Services and Defense agencies. We are always seeking ways to improve the effectiveness of those systems in providing support to military operations.

Question. As resources decline, DoD is forced to make some hard choices between maintaining current systems and fielding new systems. Are the Services delaying the fielding of C3I systems because of reductions in the budget?

Answer. Yes, declining resources have resulted in some decisions to delay or stretch out the fielding of some new systems.

Question. What is the impact of delayed fielding of C3I systems to the warfighter?

Answer. The single greatest advantage U.S. forces have over all potential adversaries is their superiority of technology, especially C3I technology critical to success in modern, information-based warfare. As force structure is reduced, the warfighter's reliance on advanced C3I capabilities increases as his need for force multipliers and force enhancers increases. Delays in fielding new C3I systems potentially reduces the warfighter's edge in combat, and increases the vulnerability created by reduced force structure.

We seek to minimize the adverse impact of delayed fielding of C3I systems by deploying those systems that are available first to those units that are routinely maintained at the highest state of readiness, e.g., the XVIII Airbore Corps. Of course, we incur some small amount of added risk with this strategy as our most capable combat units will be equipped with systems different from other units that support them, potentially leading to problems with interoperability and connectivity.

Question. What guidance has the Secretary of Defense given to the Services on the level of commitment he wants C3I systems in the budget?

Answer. Through the Defense Planning Guidance, the Secretary directed that specific C3I actions be taken, especially relevant to tactical missile detection, integrated connectivity to all theater and tactical elements, and improved intelligence capabilities to disseminate strategic theater and tactical intelligence to joint/combined operating forces with emphasis on the timely distribution of imagery. The Joint NFIP and TIARA Program and Planning Guidance issued by the Deputy Secretary of Defense and the Director of Central Intelligence provided even more specific guidance in the intelligence area.

ACQUISITION REFORM

Question. DOD is currently reviewing the current acquisition process. The process has been criticized for increasing the cost and delaying the production of new DOD systems. Often when C3I systems reach production, the technology is dated or obsolete. What changes would you like to see in the acquisition process?

Answer. There are five changes that we would like to see in the acquisition process. First, we would like to see adoption of the simplified acquisition threshold as proposed by the Administration. Adoption of the simplified acquisition threshold gives the department the ability to acquire goods and services under $100,000 using simplified procurement procedures. Second, we would like to see adoption of the commercial item definitions and exemptions proposed by the Administration. Adoption of the commercial item definitions and exemptions provides increased access to commercial products. third, we would like to see implementation of Electronic Commerce/Electronic Data Interchange (EC/EDI). Implementation of EC/EDI will allow faster processing of procurement actions. Fourth, we would like to use commercial specifications in lieu of military specifications (unless military specifications are the only means of satisfying the user's need). Use of commercial specifications will allow the Department access to an increased range of commercial products. Fifth, we would like a multi-year appropriation for our C3I acquisitions to allow better year-to-year fiscal continuity. This would help to avoid the funding instability of annual appropriations which can significantly damage program development and fielding.

Question. How ill acquisition reforms impact program development for C3I programs?

Answer. Implementation of acquisition reform initiatives will give C3I programs increased access to commercial products which has two important benefits. First, the commercial sector has been at the leading edge of technology in the C3I technology arena. Access to commercial product line will increase DOD access to leading edge technologies to support C3I programs. Second, procurement of commercial products can be done much more quickly than development of military-unique systems. This will allow DOD to get inside the technology change curve.

Question. How important is acquisition reform for C3I systems?

Answer. It is the only practical means of reducing acquisition costs, obtaining access to state-of-the-art C3I technologies, and reducing the time it takes to get these new innovative technologies into the field to support the warfighters.

Question. What is your role as the Assistant Secretary of Defense for Command, Control, Communications, Computers and Intelligence in the acquisition reform process?

Answer. My role is to provide support to the Deputy Under Secretary of Defense (Acquisition Reform) In accomplishing the Department's proposed acquisition reform agenda. As the Department's Senior Information Management Official under the Paperwork Reduction Act, I have principal responsibility for the acquisition, management, and use of Federal Information Processing (FIP) resources. When acquisition reform initiatives affecting FIP resources are proposed, I am responsible for evaluating them to ensure that any aspects of the initiative that will require changes to the Department's FIP policies are recognized and that appropriate action is taken to effect the necessary changes and implement the acquisition reforms in the areas of C3I programs.

DEFENSE DEPARTMENT PORTION OF NATIONAL FOREIGN INTELLIGENCE PROGRAM

Question. The DOD portion of the National Foreign Intelligence Program includes DIA and the military intelligence components, the National Security Agency and its military components, the National Reconnaissance Agency, the Central Imagery Office, Foreign Counter-Intelligence activities, and other classified Navy programs. You are requesting a total of $16.3 billion for these activities in fiscal year 1995. However, the Director of Central Intelligence has already testified that DOD requires only $13.2 billion for fiscal year 1995 for these functions. Why are your numbers $3.1 billion higher for exactly the same activities?

Question. Since the Director of Central Intelligence is in charge of these programs and he believes he needs only $13.2 billion, if you have requested $16.3 billion, does that mean that the Committee can delete $3.2 from your request?

[CLERK'S NOTE.—The Department was unable to provide responses in time to be printed in this hearing volume.]

INTELLIGENCE SUPPORT TO U.S. FORCES DEPLOYED WITH THE U.N.

Question. The U.S. currently has over 300 troops deployed as a part of the U.N. presence in Macedonia. During a recent visit by the Committee staff, it was found that our troops had no capability to receive intelligence information. The only information that they were receiving was provided by a very dedicated CIA agent who was not only doing his regular job, but was working overtime to provide our forces with occasional tactical intelligence concerning the order of battle of the Yugoslav forces deployed across the border which was only a few miles away. The U.S. has excellent human and technical intelligence information concerning the deployment of Yugoslav troops. Why has DOD not fashioned some method to provide intelligence support to these deployed U.S. forces?

Question. In recent years, DOD and the CIA have developed a good working relationship to better support U.S. troops deployed abroad. CIA personnel in Macedonia were very receptive to being assigned a senior enlisted military person under non-official-cover to provide the U.S. battalion commander with direct tactical intelligence support. Do you believe that such an arrangement might be feasible? Would you please look into this situation and provide a response to the Committee as to how DOD can provide better intelligence support to U.S. troops in Macedonia?

Question. The environment in Macedonia is much friendlier than could be expected if we ever deploy U.S. troops into Bosnia to support a U.N. enforced cease-fire. Do you have plans to get current tactical intelligence to U.S. troops in Bosnia if we should deploy them?

[CLERK'S NOTE.—The Department was unable to provide responses in time to be printed in this hearing volume.]

GUARD AND RESERVE C31 PROGRAMS

Question. In fiscal year 1993 the Committee created a C3I planning office in the Air Guard. The purpose of the office is to provide centralized planning as modern C3I missions transition into all of the Guard and Reserve forces. What has been accomplished to date in identifying C3I missions for the Guard and Reserve?

Answer. Since the office was established in January 1993, the Air National Guard (ANG) C3I Planning Office has worked through the normal Air Force system for identification and transfer of missions from the active to reserve components. As a result, the active Air Force has transferred the Senior Scout mission to the Utah ANG.

In addition, the ANG has established a Memorandum of Understanding (MOU) with the Air Force Space Command Tactical Exploitation of National Capabilities (TENCAP) Office. This MOU allows for ANG participation in capability demonstrations of new warfighting technologies. This landmark agreement has resulted in ANG participation in several major exercises highlighting space support to the warfighter. The planning office is working with the Space Warfare Center in Colorado Springs to identify future space missions for Reserve Component participation.

The ANG has established 10 traditional guard positions, 5 each in Florida and Colorado, to work with Air Force Space Command in identifying potential missions for the ANG.

The Long Range Planning Office will continue to work closely with the active Air Force to identify other missions for transfer to the Reserve Component.

Question. Has the C3I planning office been useful as an Executive Agent or should it be disestablished and the billet authorizations be cancelled?

Answer. The C3I Planning Office has been effective within the Air Force. The ANG has benefited from the visibility and relationships established by the planning office. Although no missions have transferred to the Reserve Component since the establishment of the office, the groundwork has been laid and we are optimistic.

The C3I Planning Office has not been as effective when dealing with the other service components reserve forces. We are exploring options to improve this. Regardless of where the executive agent responsibility resides the billets should be preserved.

Question. For the record, please provide a detailed listing of C3I funds requested in fiscal year 1995 by Guard and Reserve component and appropriation, and compare that with the corresponding fiscal year 1994 levels.

Answer.

[In thousands of dollars]

	Fiscal year—	
	1994	1995
Army:		
O&M Army Reserve	do	Do.
O&M Army	do	Do.
Military personnel, Army	do	Do.
Reserve personnel, Army	do	Do.
Guard personnel, Army	do	Do.
SOCOM:		
Reserve personnel, Army	do	Do.
Reserve personnel, Navy	do	Do.
Guard, personnel, Army	do	Do.

[In thousands of dollars]

	Fiscal year—	
	1994	1995
Air Force:		
Aircraft procurement, AF	......do	Do.
Other procurement, AF	......do	Do.
Military construction—Guard	......do	Do.
O&M, AF Reserve	......do	Do.
O&M National Guard	......do	Do.
Military personnel, AF	......do	Do.
Reserve personnel, AF	......do	Do.
National Guard personnel, AF	......do	Do.
USMC:		
Reserve personnel, USMC	......do	Do.
Navy		
O&M, Navy	......do	Do.
Military personnel, Navy	......do	Do.
Reserve personnel, Navy	......do	Do.

DEFENSE AIRBORNE RECONNAISSANCE OFFICE OVERVIEW

Question. Last year, DoD established the Defense Airborne Reconnaissance Office to consolidate the development and acquisition of joint-Service and Defense-wide airborne reconnaissance systems. The Defense Airborne Reconnaissance Office has oversight responsibility for manned and unmanned reconnaissance vehicles, sensors, data links, and ground processing. The Defense Airborne Reconnaissance Office is requesting $2.0 billion for fiscal year 1995. What is the Defense Airborne Reconnaissance Office's charter?

Answer. The Defense Airborne Reconnaissance Office (DARO) is responsible for the development and acquisition of all joint Service and Defense-wide airborne reconnaissance capabilities. The DARO provides oversight of and insight into each of the programs that have been assigned to the Defense Airborne Reconnaissance Program (DARP). DARO will develop a comprehensive, integrated airborne reconnaissance architecture, accomplish the requirements analysis and system-level trade-offs to improve airborne reconnaissance capabilities, and ensure the effective leveraging of appropriate advanced technologies. DARO works in close cooperation with ASD (C3I), the Joint Staff, Services and Defense Agencies, to address warfighter needs for improved airborne reconnaissance.

Question. Who has approved the Defense Airborne Reconnaissance Office's charter?

Answer. The Department is currently processing a directive that formally establishes the Defense Airborne Reconnaissance Office (DARO) as a development and acquisition office under the authority, direction and control of the Under Secretary of Defense (Acquisition and Technology). The functions assigned to the Director of DARO were established by the Defense Airborne Reconnaissance Steering Committee (DARSC) chaired by the DepSecDef and cochaired by the Vice Chairman, JointChiefs of Staff. The DARSC membership includes the senior leadership of the Services and Defense Agencies, including the DCI and ASD (C3I).

Question. What is the Defense Airborne Reconnaissance Program Manager's relationship with the JCS, Secretary of Defense, and the CINC's?

Answer. Activities within the Defense Airborne Reconnaissance Program respond to CINC requirements. The Joint Staff validates those requirements and monitors the program activities to assure the needs are addressed. The Secretary of Defense is the approval authority for the program.

Question. What are the Defense Airborne Reconnaissance Program Manager's budget authorities?

Answer. The Director, DARO, is responsible for the development, acquisition, and investment strategies for joint Service and Defense-wide airborne reconnaissance activities. DARO provides fiscal oversight for the Services and Defense Agencies assigned as Executive Agents for the individual programs of the Defense Airborne Reconnaissance Program (DARP). Additionally, the Director, DARO, reviews and consolidates budget justification for all programs in the DARP, assuring the planning for each element of the DARP fits within the context of the overall integrated Defense Airborne Reconnaissance strategy.

Question. The Defense Airborne Reconnaissance Program has oversight over joint-Service and Defense-wide systems to ensure compatibility. Service-unique airborne reconnaissance system development and acquisition oversight is done by each individual Service. The next crisis will probably be fought jointly. How does the Defense Airborne Reconnaissance Program Office ensure interoperability between joint or Defense systems and Service-unique systems?

Answer. The Defense Airborne Reconnaissance Office (DARO) is developing the comprehensive, integrated airborne reconnaissance architecture that will guide the Department's activities to improve reconnaissance support to the warfighter. This single, integrated architecture does consider and encompass those few surveillance and Service-unique systems that are not considered element programs of the DARP. By means of the architecture authority, the DARO will ensure eventual interoperability of the DARP and related Service-unique reconnaissance and surveillance systems.

Question. What criteria are you using to determine whether it is a joint or Service-unique airborne reconnaissance system?

Answer. Historical designation was used to determine joint or Service-unique classification. Normally, the Joint Staff designates joint systems based on CINC warfighting requirements. Additionally, the Defense Airborne Reconnaissance Steering Committee (DARSC), chaired by DepSecDef and Co-chaired by the Vice Chairman, JCS, has reviewed the assignment of airborne reconnaissance systems to the DARP and those not included in the DARP.

Question. Ground processing stations that can receive data from any air platform make operational and fiscal sense. Currently you are studying the possibilities for a common ground station. Since you do not have oversight for Service unique-reconnaissance processing system, how do you ensure that the Services comply with DoD standards?

Answer. DARO will assist and support the development of DoD standards as they are applied to Defense-wide airborne reconnaissance systems. The current Service plans to terminate certain outdated Service-unique systems within the FYDP such as the Air Force's Photographic Processing and Interpretation Facility, the

Army's MOHAWK, and the Navy's Tactical Air Reconnaissance Pod System will also be supported. DARO will continue to support Service R&D efforts which emphasize joint Service and Defense-wide commonality and interoperability such as the common Enhanced Tactical Radar Correlator/Marine Corps Processor System Aperture Radar Processor. We shall, where appropriate, conduct independence R&D efforts which support the development of a Common Distributed Ground Station and offers such capabilities to enhance joint-Service interoperability. Other Service plans such as the Air Force's merger of Contingency Air Reconnaissance System, Imagery Product Dissemination System, and Joint Service Imagery Processing System will be evaluated for joint-Service adaptability. Through close coordination with the Services we shall review surviving Service-unique systems and propose ways and means to merge these systems into a joint-Service environment ———.

Finally, those Service-unique systems which have no plans for merger into a joint environment will be identified and subjected to rigorous evaluations at the DoD level to justify their continued existence.

Question. The Defense Airborne Reconnaissance Office does not control the operations and maintenance funds for reconnaissance system. How do you ensure that the Services are properly maintaining fielded systems?

Answer. The Director, DARO, is responsible for resource and programmatic oversight of all funding for development and acquisition of DoD joint Service and Defense-wide airborne reconnaissance systems. As part of this oversight, the Director, DARO, will review the operations and maintenance (O&M) funding planned and programmed for the Defense Airborne Reconnaissance Program (DARP) for adequacy to ensure the fielding of supported and supportable systems. The DARO does not have an operational role, and the Services are responsible for the execution year performance of O&M to meet the operational needs of the warfighters.

Question. The Defense Air Reconnaissance Program Offices does not report to the Assistant Secretary of Defense for Command, Control, Communications, Computers and Intelligence. Who does the Program Manager for the Defense Airborne Reconnaissance Office report to?

Answer. The DARO is a development and acquisition activity under the authority, direction and control of the Deputy Under Secretary of Defense (Advanced Technology). Oversight of DARO activities is a shared responsibility with the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence having responsibility for overall supervision of any intelligence matter.

Question. What is the formal process for inserting intelligence requirements to the Defense Airborne Reconnaissance Office?

Answer. The Defense Airborne Reconnaissance Office (DARO) was placed under the control of the DUSD (AT) with the concurrence of the ASD(C3I). ASD(C3I) is directly involved with the management of improved airborne reconnaissance capabilities and, by law, responsible for overall supervision of any associated intelligence matters. Through the very close working relationship between DARO and offices reporting to ASD(C3I), airborne reconnaissance intelligence requirements are provided to DARO. The process is being formalized in the DoD Directive currently being coordinated. Both offices work closely with the JCS to accommodate critical, validated requirements of the CINC's.

Question. How does the Defense airborne Reconnaissance office make trade-offs between airborne reconnaissance systems during the budget build?

Answer. In order to satisfy CINC requirements and fix identified shortfalls, the Defense Airborne Reconnaissance Office (DARO) is establishing (with the Joint Staff, Services and Defense Agencies) an Objective Architecture which will satisfy the airborne reconnaissance objectives. The companion investment strategy and migration path to achieve this architecture will gradually adjust the funding profile to ensure that a balanced approach is taken for an end-to-end, responsive, warfighter-centered reconnaissance architecture. This will include re-addressing shortfalls, leveraging commercial developments, embracing the emerging digital information environment, and ensuring participation in the C4I for the warrior infrastructure. DARO will work in close cooperation with ASD (C3I), the Joint Staff, Services and Defense Agencies to make the necessary trade-offs between airborne reconnaissance systems.

Question. What are the significant shortfalls in airborne reconnaissance systems? Do you believe the shortfalls are in collection, processing or dissemination capabilities?

Answer. System shortfalls can be viewed from two perspectives and include collection, processing and dissemination capabilities:

From the systems perspective: Too many unique airframe types; sensors irrevocably tied to ground stations; platforms or sensors tied to ground stations; single-discipline data links; single-discipline ground stations; communication interfaces; survivability.

From the warfighter perspective: Broad area coverage; exploitation throughput; timeliness; collection quality; geolocation accuracy; assured delivery.

Question. What initiatives in the fiscal year 1995 budget fix airborne reconnaissance systems shortfalls?

Answer. During July 1993, the Advanced Tactical Airborne Reconnaissance System (ATARS) Program and the Medium-Range Unmanned Aerial Vehicle (UAV) Program were canceled, resulting in a large void in the projected tactical reconnaissance capabilities. OSD has taken some near term actions which include terminating some programs, merging others, and initiating new programs.

Terminated programs included ———.

Question. How does the Defense Airborne Reconnaissance Program Office ensure interoperability between the sensor and ground processing equipment?

Answer. The Defense Airborne Reconnaissance Office (DARO) will ensure interoperability between sensor and ground processing equipment by continuous and close coordination between its staff members charged with sensor and ground system development responsibilities. These coordination procedures will allow synchronized evaluations concerning the fielding of new equipment in one area so that projected capabilities do not unfavorably impact upon the current or future planned capabilities of another area. DARO will use its oversight authority to export its internal coordination efforts to those undertaken by DoD Service and Agency developers of new capabilities to ensure interoperability is a prime driver in the development of new systems and the continuation of existing systems. Coordination opportunities can occur during the Service and DARO POM building process and the submission of Congressional Justification Books.

Question. ———. Through centralized management, it would appear that efficiencies would result. What savings have you achieved by centralizing advanced sensor development?

Answer. Prior to the formation of the DARO, the advanced sensor developments were already largely under centralized management in the Airborne Reconnaissance Support Program and those programs were already coordinated. The advent of the DARO has built on that effective management. No significant funding increases are requested even though Unmanned Aerial Vehicle (UAV) developments are being expanded. ———.

Question. Since the Defense Airborne Reconnaissance Office fiscal year 1995 request appears to be just an aggregation of existing program resources, would it not make sense to cut out the overhead costs and let the Services continue to manage their own programs?

Answer. Until Secretary Perry's creation of the Defense Airborne Reconnaissance Office (DARO), there has not been a single focal point within the Department of Defense for the development, acquisition, and advocacy of Joint-Service and Defense-wide airborne reconnaissance systems. The DARO has consolidated the funding and will provide the advocacy. The Director of the DARO will work with the CINCs, the Services, and the Defense Agencies, to provide an optimum mix of reconnaissance systems for employment by theater and Joint Task Force Commanders. It should be noted that the Services previously managed their own programs which resulted in a fragmented defense airborne tactical reconnaissance program even after expenditure of significant funding. DARO provides the focus and authority required to implement an effective overall airborne reconnaissance program.

Question. What is your relationship with the Central Imagery Office in the development of imagery architectures?

Answer. As the organization responsible for integrating all national and tactical imagery systems and architectures, the Central Imagery Office (CIO) works with the Services and Commands to define future requirements, and defines interface standards for imagery systems. CIO is represented on the Defense Airborne Reconnaissance Office (DARO) Steering Committee and all DARO working groups.

The DARO is supporting the CIO's Congressionally directed United States Imagery Services (USIS) Architecture Migration Plan (U–AMP) tasking. That imagery architecture will be an element in the DARO's architecture of all airborne reconnaissance and surveillance assets. Future DoD airborne reconnaissance and surveillance systems will be compatible with CIO standards and will support defined imagery achive and data exchange standards to provide seamless exchange across different user hardware and software boundaries.

UNMANNED AERIAL VEHICLES (UAV)

Question. The Defense Airborne Reconnaissance Program has oversight responsibility for Unmanned Aerial Vehicles (UAV). How does the Defense Airborne Reconnaissance Office's charter differ from that of the Joint Program Office for UAV's?

Answer. The Defense Airborne Reconnaissance Office (DARO) is responsible for the development and acquisition of all joint Service and Defense-wide airborne reconnaissance capabilities. The DARO provides oversight of and insight into each of the programs that have been assigned to the Defense Airborne Reconnaissance Program (DARP). DARO will develop a comprehensive, integrated airborne reconnaissance architecture, accomplish the requirements analysis and system-level trades to improve airborne reconnaissance capabilities, and ensure the effective leveraging of appropriate advanced technologies. DARO works in close cooperation with ASD (C3I), the Joint Staff, Services and Defense Agencies to address warfighter needs for improved airborne reconnaissance.

The UAV Joint Program Office (JPO) is responsible for the development, acquisition and support for fielding of unmanned aerial vehicle systems to meet the requirements of the Joint Requirements Oversight Council and the Services. The UAV JPO is chartered by OSD as the acquisition Executive Agent for UAVs assigned to the JPO.

Question. Recently, the National Foreign Intelligence Program requested a reprogramming to procure 3 additional TIER I UAV's. Why should the National Foreign Intelligence pay for tactical military intelligence support?

Answer. Normally, the National Foreign Intelligence Program (NFIP) does not pay for tactical military intelligence support ———.

Question. The TIER I contract ends at the end of the month. Are you concerned that there will be a break in contractor support?

Answer. The period of performance for the existing Tier-1 contract is being extended through 30 June 1994. This will allow a post-deployment task to be completed. The small amount of remaining funds on this contract will be used to refurbish the GNAT–750 aircraft, following its period in rather hostile climatic environment. Any break in contract coverage after that point would result in a loss of continuity with General Atomic ———.

Question. Last year, Congress terminated funding for the close range UAV. This year you renamed the program and are requesting $55 million. What is the requirement for the close range UAV?

Answer. The requirement for the Close Range UAV system (now referred to as the Maneuver Variant of the Joint Tactical UAV) is documented in a Joint Requirements Oversight Council Memorandum (JROCM–003–90). This reflects the validation of a need for Organic Division and lower echelon reconnaissance, surveillance and target acquisition (RSTA) capability to support cannon and rocket artillery and naval frigate weapons.

Question. Recently, it was discovered that the Pioneer UAV was over priced. The budget requests reflects the inflated cost of the vehicle. What are you doing to ensure that DoD is getting what it paid for?

Answer. Pioneer UAV has never been overpriced. Recent allegations of overpricing focus on a limited procurement (13 purchase orders totaling $295,000) of engine related spare parts placed in July 1992 by a Navy field activity. To date no other instances of overpricing has been discovered.

Management and contractual processes/procedures are in place to ensure DoD gets what it has paid for. After the Program identifies procurement requirements (air vehicle and attrition spares) and receives a cost/technical proposal from the Pioneer UAV prime contractor, audits are performed by the Defense Contract Audit Agency (DCAA) and technical evaluations are performed by the Defense Contract Management Command (DCMC). Subsequently, DCMC provides a complete pricing report which ties together the audit and technical evaluation. After receiving all the DCMC reports, the government contract negotiator performs a cost analysis for the pre-negotiatons business clearance to justify the agreement to cost. The contract is signed after the post-negotiations business clearance is approved.

To alleviate recent overpricing concerns and to ensure that there are no inflated costs for the Pioneer UAV, additional audits are being performed. Reviews of all Pioneer contracts placed by headquarters and its field activities are being conducted by DCMC, DCAA and the Naval Supply System Command Price Fighter Team. These reviews will determine if any overpricing occurred. DoD will aggressively pursue a refund on all validated overpricing identified by these reviews.

Question. Will the fiscal year 1995 request for Pioneer change?

Answer. There will be no change in the FY 1995 budget request. The request is based upon the Pioneer Program's Procurement requirement for air vehicles, payloads and attrition spares needed to support operational/combat readiness for the Pioneer UAV Pioneer costs are not "inflated".

IMAGERY PROCESSING SYSTEMS

Question. The Joint Imagery System was criticized for being too expensive. The Defense Airborne Reconnaissance Office has reduced the cost of the system. With the reduced cost, what capabilities are being decreased?

Answer. With the reduced cost of the JSIPS the following capabilities are being decreased:

Real time screening is reduced to a few seconds delay.

Military Standards are exchanged for best commercial practices (not necessarily a reduction).

There is no nuclear hardening in the restructured JSIPS Program.

Movement on unimproved roads is changed to movement on secondary roads.

Operations under chemical, biological and radiological conditions will be limited.

Maintenance will be performed by a mix of military and contractor personnel.

TACTICAL SIGNALS INTELLIGENCE

Question. RC–135's provide near-real time SIGINT reporting for military operations. The Committee has learned that you no longer plan to reengine the RC–135's. Are you upgrading the RC–135 sensors?

Answer. Because of the strong demand for tactical SIGINT support by the warfighting CINCs, and Defense Guidance to support two Major Regional Conflicts (MRCs) the RC–135 RIVET JOINT aircraft is critical to the DoD. Present direction is for the RIVET JOINT program to continue upgrades through the "Baseline 6" configuration. For the near term, the RIVET JOINT aircraft will continue to receive relatively minor "box replacement" upgrades to insure its viability as a tactical SIGINT collection system. The RIVET JOINT program manager will work to insure system commonality, minimize duplication of efforts, and maximize leverage of technologies available within the SIGINT community.

Question. Are you looking at alternative platforms to conduct the RC–135 mission?

Answer. The Defense Airborne Reconnaissance Office (DARO) long term objective is to reduce the diversity of airborne platform types and will consider follow-on manned aircraft. The DARO and the Air Force Scientific Advisory Board (AFSAB) is currently studying "aging aircraft" with an area of emphasis including special mission aircraft such as reconnaissance and special operations. The DARO, has and will continue to provide information to the AFSAB effort and intends to use their recommendations in any decision to pursue an alternative platform.

Question. What is the life expectancy of the current RC–135 engine?

Answer. The Air Force has assigned no specific life expectancy to the current RC–135 engine. The present engines can be rebuilt with new or refurbished parts to provide supportability through the year 2020 or longer. Rebuilt engines will not increase aircraft performance or decrease fuel consumption or noise.

Question. With the termination of the MOHAWK program, there will be no tactical moving target indicator sensor in Korea. This is a critical capability to U.S. forces on the Peninsula. To date, you have committed no resources to replacing the platform. Why?

Answer. ———.

The DARO is monitoring the effort to provide a permanent replacement for the OV–1D Mohawk as part of the EASI. The DARO is conducting a study that compares alternatives that might provide an interim solution to the approaching MTI/IMINT coverage gap. Funding source—U.S. or ROK—for the required interim capability remains unresolved.

Question. For the record, could you please submit which U–2 SIGINT upgrades have been terminated in the fiscal year 1995 budget?

Answer. There are no U–2 SIGINT upgrades terminated in the fiscal year 1995 budget.

Question. What is NSA's role in the development of SIGINT systems that are funded by the Defense Airborne Reconnaissance Office?

Answer. NSA has been involved in SIGINT reporting for military operations since the mid-70's in a technical advisory, policy determination and process management role. NSA works with the Services to ensure interoperability and realize cost savings among the various SIGINT systems. With the Defense Airborne Reconnaissance Office (DARO) assuming funding control for certain SIGINT systems, NSA has taken an active role in the DARO and is a full participant in the day-to-day management of airborne SIGINT systems.

UNDERSEA SURVEILLANCE

Question. The DoD fiscal year 1995 request for Sound Surveillance Systems does not provide funds for the ships that maintain and lay underwater cables. It is our understanding that there are approximately eight underwater cable breaks per year. A follow-up system will not be fielded until the end of the century. Will there be a gap in U.S. underwater surveillance? If so, what is the impact?

Answer. As breaks in the system occur, repairs will be prioritized and completed as cable ship assets are made available. This condition may result in underwater surveillance coverage gaps. Mobile underwater surveillance assets such as Surveillance Towed Array Sensor System (SURTASS) will be available to help lessen possible gaps. Acoustic data provided to the scientific community and other government agencies in support of the driftnet fishing ban, drug enforcement activities and other dual uses may also be impacted.

Question. How will you deploy follow-on systems without the ships used to lay undersea cable?

Answer. The Navy will not be able to deploy or repair systems in FY 1995 without an operating cable ship. The deployment of the Fixed Distributed System (FDS) will be delayed approximately one year. However, the Navy is examining all options to identify funding for cable ship operations in FY 1995.

Question. In your statement, you described the state of Sound Surveillance systems as "standby" status. What is "standby" status?

Answer. The Sound Surveillance System (SOSUS), one portion of the Integrated Undersea Surveillance System (IUSS), is being placed in standby as of 30 September 1994 ———. While these reduced manning levels limit the capability to monitor fixed arrays, a plan is being developed to augment sites with additional analysts should situations warrant.

Question. What is the impact of maintaining "standby" status to the fleet commander?

Answer. ———.

Question. In the last two years, DoD has invested over $200 million in developing a fixed distributed system for detecting submarines. Because of budget reductions, the program will not mature to production. This summer we will deploy two prototype systems, the Norwegian Sea System, which will be given to a host nation and a demonstration system. How will DoD be able to deliver and deploy the Norwegian Sea System without funds for the cable ships?

Answer. ———. Deployment will be delayed for approximately one year. However, the Navy is examining all options to identify funding for cable ship operations in FY 1995. ———.

Question. Does the host country know that the Norwegian Sea System delivery date may slip?

Answer. The Navy is examining all options to identify funding for cable ship operations in FY 1995. If the requirement is deemed insupportable, the host will be notified in a timely manner.

Question. This summer you will conduct sea trials on the demonstration system. Due to a lack of funds, the system will not be retrieved at the completion of the demonstration. Why not spend the $8 million retrieval cost and reuse the $50 million system?

Answer. The decision not to retrieve FDS-D was not solely an economic one. The expectation was to retrieve the system at a later date. Cable ship schedules and storage facilities are not available upon the conclusion of the test, but are potentially available at a later date. The Navy is pursuing a plan to retrieve FDS-S late FY 1994 or early FY 1995.

Question. DoD is requesting $32 million for the Advanced Deployable System (ADS). Through ADS, the Navy will develop a rapid, sustained, or unobserved deployable underwater surveillance system to detect submarines in shallow waters. What is the requirement for the deployable system? Speed, sustainment or unobservability?

Answer. The requirement for ADS is scenario driven. The fleet foresees surveillance needs that may require speed, unobservability, or both. ADS is intended to fulfill the mission need to primarily detect, locate and report submarines operating in shallow littoral waters. One of the general capabilities required in the mission need statement is to provide swift, overt or covert surveillance anywhere in the world. Through the Demonstration and Validation Phase, ADS will be prototyped and taken to sea in fleet exercises for evaluation. The need for sustainable surveillance has not been continued in the draft Operational Requirements document.

Question. The Navy commitment to the fixed distributed system has fallen as resources have been reduced. What is the Navy's commitment to ADS?

Answer. The Navy is fully committed to ADS, viewing it as a major contributor to littoral warfare, by enhancing the ability to move ships, both naval and merchant, through shallow water safely.

NON-ACOUSTIC ANTI-SUBMARINE WARFARE (ASW)

Question. Congress established the OSD non-acoustic ASW office many years ago due to dissatisfaction over Navy management of certain programs. The Committee understands that while OSD considered dismantling the program, it will now remain as a separate program in your office. Mr. Paige, please explain your strategy for operating the OSD non-acoustic ASW program.

Answer. The program continues to reside within OASD(C3I). The management structure has been strengthened to consist of a Program Manager, Director of the Intelligence Systems Support Office, responsible for program implementation and contracting support;

Director, Intelligence Systems in OASD(C3I) responsible for technical oversight; and a Program Coordinator who has direct oversight and management of the program. The program will continue independent investigations to identify and assess non-acoustic technologies and systems. A detailed plan is in development. Information on program plans, test activities, science base investigation and analysis products will be made available to Navy and other interested Government elements.

Question. Describe actions to strengthen oversight and management of this program within OSD.

Answer. I have strengthened the program management and technical oversight within C3I. The program management is now coordinated in the Intelligence Systems Support Office which provides planning, programming, contracting, and budgeting assistance. On the technical side. I have designated the Director of Intelligence Systems as the technical oversight for the program. I have also directed that a Technical Advisory Committee be set up to assist the Director in the oversight function.

Question. What will be done to foster a more open and cooperative relationship between the program and the Navy?

Answer. During FY 1994, the program will solicit suggestions for projects from the Navy and consider them for funding and execution under the C3I program sponsorship. The Navy will also have access to every aspect of the C3I program in order to foster a more open and cooperative relationship. The Navy will have a representative on the Advisory Committee to provide recommendations at the highest level of program coordination.

Question. Do these activities end the debate about the future of this program, or do you expect to revisit the issue again next year?

Answer. There currently are plans to review the program in the future to evaluate the impact of new program approaches within the context of normal program oversight.

Question. Please provide a detailed breakout for the record for the activities to be funded in 1994 and 1995 for the OSD program.

Answer. ———.

Question. Please provide for the record a similar breakout for all Navy non-acoustic ASW research funds.

Answer. To be provided separately by the Navy.

DEFENSE SUPPORT PROGRAM

Question. The Committee has already addressed the DSP and ALARM programs during our space hearing. However, it was an open hearing and we could not get into the classified details of DSP's inability to see various kinds of theater ballistic missiles. How would you compare the capabilities of DSP and ALARM to see such missiles as the SS–21, the SCUD, and the No Dong?

Question. What distinctions should be made between the inherent capabilities of DSP and ALARM for such factors as the age of a particular satellite, cloud cover, orbital geometry, time of year, solar flare and glare, and the technologies used to build each of the two satellites?

[CLERK'S NOTE.—The Department was unable to provide responses in time to be printed in this hearing volume.]

LANDSAT PROGRAM

Question. When DoD agreed to fund LANDSAT 7 two years ago, this Committee expressed concern that it would be difficult for DoD to find the funds to support what had traditionally been a civilian program. Earlier this year, DoD agreed to transfer the program to NASA. Why did DoD agree to fund LANDSAT 7 and then back out of it half way though the procurement?

Answer. The Department of Defense (DoD) and NASA agreed to jointly manage the Landsat 7 program in March, 1992. Under the terms of the Management Plan for the Landsat Program, DoD was responsible for the space segment, and NASA for the ground segment. Included in the Plan was the budget profile for each agency to conduct the program, which specified a baseline system functionally equivalent to Landsat 6, i.e., 30 meter resolution multispectral imagery and 15 meter panchromatic imagery.

As the program progressed, it became clear the DoD required, and technology would support, the development of an instrument of finer spatial resolution. In December, 1992, DoD budgeted additional funds to develop an enhancement to the system, the High Resolution Multispectral Stereo Imagery (HRMSI), and integrate it with Landsat 7. NASA, on the other hand, was unsuccessful in obtaining matching funds for the ground segment. DoD was unable to fund the NASA share of the enhancement costs, and further determined that without HRMSI, Landsat 7 was no longer cost effective given the military's current requirements. As a result, the USD (A&T) decided DoD should withdraw from the program. This decision was ratified by the National Science and Technology Council in early 1994.

Question. Have any funds been requested in fiscal year 1995?

Answer. No funds have been requested for Landsat in FY 1995.

Question. In the February Earthquake Supplemental, the Congress rescinded a portion of your fiscal year 1994 LANDSAT 7 funding and gave DoD the authority to transfer up to $90 million to NASA as a part of the program transfer. When do you expect the transfer to take place?

Answer. In addition to granting the authority to DoD to transfer up to $90 million to NASA, the law also required NASA to certify to Congress that it had adequate funds identified in the out years to execute the program. As specified in a joint Transition Plan signed by DoD and NASA in February, 1994, work performed on the Landsat contract beginning March 1, 1994 will be deducted from the $90 million total transfer. DoD will initiate the transfer of the Landsat contract and the remaining funds upon NASA's certification to Congress.

COMMUNICATIONS AN/ARC–210 RADIO

Question. Last year the committee directed OSD to review the Navy requirement to develop a new ARC–210 radio instead of using a much cheaper combination of ARC–164 and ARC–222 radios which the Army and the Air Force use. What is the status of this review?

Answer. An independent review is being conducted by the Institute for Defense Analyses. This review is scheduled to be completed by May 30, 1994 with submission to Congress by June 15, 1994.

Question. The ARC–210 radio will provide both VHF and UHF communications in a single radio. In order to ensure a communications capability at all times, the navy intends to put two of the ARC–210 radios in each aircraft. If the Navy put an ARC–164 and ARC–222 in each aircraft, would the same objective (that is, two communications frequencies and two separate sets of hardware) not be accomplished?

Answer. The Navy has developed the ARC–210 to meet specific mission requirements. The program has recently completed OPEVAL, and has been approved for full rate production. The Navy's schedule is well ahead of the Air Force ARC–222 effort, which will not begin initial verification testing (IVT) until July 1994 and is not scheduled for a Milestone III full rate production decision until December 1994. Further, the ARC–222 first option deliveries are not scheduled until March 1996. The Navy has indicated that, in the event of a failure of either of the ARC–210 radios, a redundant capability would remain to communicate UHF or VHF with the second radio. This would not be the case if a ARC–164 and ARC–222 were used instead.

This concern as well as, requirements, capabilities (Electronic Counter-Countermeasures (ECCM), frequency ranges, presets, etc.), costs (including Platform Integration) will be addressed in the independent report being developed by the Institute for Defense Analyses.

COMMERCIAL SATELLITE COMMUNICATIONS INITIATIVE

Question. At the Committee's direction, the Defense Information Systems Agency has launched the Commercial Satellite Communications Initiative. The goal is to provide for maximum utilization of commercial services and hardware to support DoD communications requirements. What is the status of this initiative and its pilot projects?

Answer. As a result of the Commercial Satellite Communications Initiative (CSCI) studies performed in 1992–1993, the Department, on November 8, 1993, promulgated policy for the use of commercial satellite communications. This policy establishes the framework to integrate the Department's efforts in implementing commercial capabilities and will guide the resulting commercial service investment strategy to ensure a cost effective augmentation to the military satellite capabilities of the Department.

To implement this policy, the Department has developed and will implement an integrated commercial satellite communications program based on the industry's CSCI recommendations and on the Congressional direction in the FY 1994 Defense Appropriations Act. The approved CSCI baseline program consists of Commander-in-Chief (CINC)/user services, space segment leases, a bandwidth managment capability, a network planning system, and integration support. This program provides the foundation to meet the Congressional direction "to build a commercial architecture to support short and long term communications requirements in a responsive and cost effective manner." The CSCI baseline program was approved by the Department on March 8, 1994 with the implementation to begin as soon as funds are authorized and available for use.

Question. According to a DoD-wide letter dated November 8, 1993, you stated that "to the extent operationally and fiscally practicable, the Department of Defense will augment its military SATCOM capability with both domestic and international commercial services." In other words, when it can be justified, the military Services are permitted to use commercial communications services. Shouldn't it be just the other way around—in other words, shouldn't the military Services be required to use available commercial communications services and hardware unless it can be justified that a unique military system needs to be developed?

Answer. The referenced policy memorandum was promulgated to integrate the Department's efforts to implement commercial capabilities, guide the commercial service investment strategy, and ensure a cost-effective augmentation to the military satellite capabilities of the Department. As in the past, use of commercial satellites is a valuable element of our multi-segment satellite communications architecture. The present military satellite communications architecture is an integrated architecture which includes both military and commercial communications systems. As part of that architecture, DoD uses commercial satellite communications when it is both cost effective for the government and when it meets the military needs for unstressed capacity. Specific unique military requirements for stressed communications will continue to be met by our military satellite systems.

Question. One of the (DISA) initiatives involves the testing of what is called a "tri-band" communications terminal. This means that the terminal can use any of three Super High Frequency channels—two commercial and one military. Now it appears that the Army, Navy, and Air Force have also started projects for their own "tri-band" terminals. Why can't DoD develop and use a single "tri-band" terminal since they will be talking with the same commercial and military satellites?

Answer. The Defense Informations Systems Agency (DISA) initiative identified in the November 8, 1993, ASD (C3I) memorandum is to develop appropriate standards for operation with the C, X, and Ku frequency bands to ensure interoperability and allow for maximum mission flexibility. The Army was tasked to develop a draft concept of operations which identifies how tri-band terminals are going to be used within the military community. Both efforts are ongoing.

The DoD has recognized that multiple types of super high frequency (SHF) deployable terminals were planned by the different Military Departments over the next decade and that most of these terminals will have multi-band requirements. As a result, the Department is exploring the feasibility of developing a family of "tri-band" terminals which are built to a single common standard and are capable of being packaged differently to meet unique operational environments. The acquisition of production ground segment terminals will continue to follow the guidelines of the Chairman's, Joint Chiefs of Staff, Memorandum of Policy (MOP) Number 37 with the Army providing central acquisition management for the community.

GROUND WAVE EMERGENCY NETWORK (GWEN)

Question. The Ground Wave Emergency Network is an Air Force communications system that would link military and civilian headquarters in the event of a nuclear attack and more conventional communications are not operating. The original plan called for a total of 83 operational sites. How many sites are currently operational and how many more are planned to become operational in fiscal year 1995?

Answer. Currently, there are 57 operational Ground Wave Emergency Network (GWEN) sites. Based on the prohibition on construction of additional GWEN sites contained in the FY 1994 DoD Appropriations Act, the Department has terminated the contract for expansion of the GWEN. There are no plans for additional GWEN sites in FY 1995.

Question. What is the operational capability of the GWEN system today and how does that compare with the capability if all 83 sites were completed?

Answer. GWEN is specifically designed to provide a survivable communications connectivity to strategic forces (bombers and ICBMs). Although we depend on GWEN to provide this critical capability now, the current 57 site configuration does not meet the required availability or reliability for our forces. The current 57 node network is extremely fragile and easily disrupted. It provides a limited thin line communications connectivity lacking a message rerouting capability should some towers be disabled. The loss of selected nodes could isolate large portions of the United States. The additional sites are required to achieve a fully operational capability.

Question. In fiscal year 1994, the Congress included a general provision prohibiting funds for construction of any GWEN sites in the United States. What impact has this provision had?

Answer. This provision necessitated the termination of the construction contract. The GWEN program had been on a Congressionally-mandated hold since FY 1991 and was unable to withstand additional delays due to the pending expiration of funds obligated in FY 1987 and FY 1988. Additional costs were also incurred for the storage of the equipment since July 1990, contract termination, contractor's Request for Equitable Adjustment, cancellation of land leases/purchases and land restoration. The Department is seeking a satellite solution to satisfy GWEN requirements, and we currently plan to turn GWEN off once appropriate MILSTAR terminals are available. This will probably occur in 1998 or 1999.

Question. If the Congress repeats this provision in fiscal year 1995, what impact will there be?

Answer. There will be no impact to the GWEN program. The Department does not plan to resume the expansion of the GWEN program.

Question. How much, including military construction, is requested in each appropriation for GWEN in fiscal year 1995?

Answer. There are no military construction funds requested for GWEN in FY 1995. Operations and Maintenance (O&M) funds for the continued operation of the current network, average $6.5 million per year, are requested.

Question. Several communities around the country have expressed objections to having GWEN sites in their areas. What are the specific objections of these communities?

Answer. Several concerns emerged regarding the GWEN program. Specifically, the continued need for the system in the post cold war environment, the adverse health effects of radio frequency radiation, a variety of environmental concerns including visual effects and economic concerns over the cost of the system.

Question. Has there been any research that indicates there may be adverse health affects from GWEN?

Answer. In FY 1991, the Congress directed the Department to conduct an independent study on the health effects of GWEN radio transmissions. The National Academy of Science's National Research Council's Board on Radiation Effects Research concluded their findings in December 1992. Their findings clearly stated that" * * * no evidence of adverse health effects of GWEN fields on public health was found."

EXTREMELY LOW FREQUENCY (ELF) COMMUNICATIONS

Question. The Extremely Low Frequency communications system is designed to operate in peacetime to communicate to submerged submarines. With the reduced risk of submarine warfare, and given the controversy surrounding this program, why is it necessary to continue its operation?

Answer. The Extremely Low Frequency Communications (ELF) system remains an integral part of the Department's overall submarine force command and control architecture. Even in the post-cold war environment, ELF is an essential communications element which ensures effective command and control links to our submarine force, including both attack and ballistic missile submarines, while conducting optimum, unimpeded worldwide operations.

Stealthy and safe operations require submarines to operate at depths and speeds which extremely limits the types of communications available. Submarine communications consist of a synergistic system of separate communications media, each having particular characteristics, to support the submarine force across a broad spectrum of operational profiles. If our submarine force was restricted in operations by our UHF, HF, LF or VLF communications to provide near-real-time command and control, then we would not be able to fully capitalize on our submarine force to covertly support tactical and strategic operations.

Post cold war deposturing has resulted in a reassessment of submarine operating procedures to ensure we are taking full advantage of submarine survivability and flexibility. Even with the reduced force structure, we must continue to provide the necessary command and control to support forward presence and crisis response worldwide. Dual ELF site operation is critical to providing the necessary communications to deconflict our own forces and direct submarines in response to rapidly changing situations or crisis hot-spots. By using ELF, Battle Group Commanders are able to alert their supporting Fast Attack submarines to rapidly changing tactical situations. Additionally, Ballistic Missile submarines can also be signaled to come to a depth where detailed messages can be received for strategic operations.

Review of ELF alternatives, costs and benefits indicates ELF is the most cost effective means of meeting the full spectrum of communications requirements which support optimum, unimpeded operations of our submarine force. Elimination of the ELF capability would severely impact the force by curtailing its full operating envelope and flexibility, thereby unnecessarily reducing the operational return on our defense investment.

Question. Has there been research that indicates there are any adverse health impacts from ELF?

Answer. Since 1982, the Navy has sponsored a monitoring program, conducted by a number of universities, which had indicated no ecological or health effects attributed to ELF. This study has been forwarded to the National Academy of Sciences for review and analysis. Upon the review completion, scheduled for September 30, 1995, the results will be forwarded to the Office of Management and Budget (OMB) and Office of Technology Assessment.

Question. How many operational sites are there currently and how many locations were in the original architecture?

Answer. There are two mutually supportive ELF sites—Calm Lake, WI and Republic, MI. These sites work in conjunction with each other to provide required antenna propagation characteristics for ELF transmissions. The original architecture included a control station at K.I. Sawyer AFB. Automation of this control function allowed for elimination of this site from the original architecture.

Question. How much, by appropriation, is included in the fiscal year 1994 and fiscal year 1995 budgets?

Answer.

[In millions of dollars]

	Fiscal year—	
	1994	1995
MPN	00.3	00.7
OMN	15.5	13.3
RDT&E	00.6	01.6
Total	16.4	15.6

MULTIFUNCTIONAL INFORMATION DISTRIBUTION SYSTEM (MIDS)

Question. The Multifunctional Information Distribution System is a multinational cooperative development program to design, develop, and procure lightweight tactical information system terminals for U.S. fighter aircraft, as well as foreign fighter aircraft, helicopters, ships, and ground sites. The total program cost will exceed $1 billion. According to a DoD audit published last year, in the past three years no DAB review was held, no acquisition program baseline was approved, and no exit criteria were established as prerequisites for entry into Engineering and manufacturing Development (EMD). Has DoD received the approvals that the Audit said were lacking?

Answer. The Multifunctional Information Distribution System (MIDS) program has received the full approval of the DoD. A Milestone II Defense Acquisition Board (DAB) decision on December 10, 1993 approved the Navy MIDS program to enter the EMD phase. The MIDS acquisition program baseline (APB) document was approved on March 7, 1994.

Question. The Audit also notes that the Air Force withdrew from the program and that the only U.S. platform that will use MIDS will be the Navy's F–18. What good is it to convince France, Germany, Italy, and Spain to participate if you can't convince the U.S. Air Force?

Answer. MIDS, the new and smaller addition to the LINK–16 family of terminals, will provide a secure, jam-resistant, interoperable, digital voice and data link terminal. MIDS will extend LINK–16 interoperability into the various platforms of the cited nations. The Air Force is strongly committed to operations with LINK–16 in its Command and Control (C2) platforms and is considering MIDS for possible use in its fighters.

Question. The fiscal year 1995 request increases to $73.3 million from only $46.4 million in the previous year. What is the basis for such a high percentage increase in what appears to be a troubled program?

Answer. The increase in MIDS funding cited by the question is in error. The funding cited represents the total funds for both the Joint Tactical Information Distribution System (JTIDS) Class 2 terminal program and for the MIDS EMD phase program.

Question. Since the Air Force believes that it can satisfy its requirements with improvements to the existing Joint Tactical Information Distribution System (JTIDS), why is it necessary to embark on a new program for which the U.S. portion of the cost will approach $500 million?

Answer. The Air Force is not considering the JTIDS Class 2 terminal or improvements to that terminal for installation on fighters due to affordability considerations. The Air Force is currently reviewing with the Navy possible MIDS options for fighter installations. The U.S. MIDS EMD phase is estimated to cost $250M ($180M(Common)+$70M(National), not the cited $500 million.

TELECOMMUNICATIONS CIRCUIT ALLOCATION PROGRAMS

Question. In audit reports dated March 11 and March 31 of this year, the DoD Inspector General evaluated whether DoD circuit allocation programs identified and used the most effective configurations for leased long-haul, special-purpose telecommunications. The IG sampled a total of 285 circuits in San Antonio and Kansas City and found that 117 circuits were not cost-effective, and 33 were not required. The military Services agreed with the findings of the audit. How many such circuits does DoD lease throughout the world?

Answer. The DISA database reflects 43,203 centralized service contracts, which includes individual circuit services as well as bundled, multi-circuit services. It does not include local services leased and managed by base level and program management personnel within the Services/agencies. Information on those leases, mainly local intra-lata services would have to be acquired through a data call to every procurement agent. If deemed necessary, we will initiate that data call.

Question. If the findings in Kansas City and San Antonio are typical, how many millions of dollars could be saved world-wide through better management of circuit leases?

Answer. The findings for San Antonio and Kansas City are not considered typical, for either DISA or the Services. Since the report is still in its final coordination phase, specific comments by OSD are not appropriate.

However, some comments are offered. First, the timeliness of the final report creates a sufficient gap between the time of survey and the present, a gap in which extensive actions have been taken within DoD's telecommunications organizations to improve the quality and efficiency of service and the means by which it is requested, provided and monitored. As such, many of the valid findings have already been corrected, improved upon, and, in some cases, totally eliminated. In some cases the requirements have disappeared or have expanded exponentially. The Defense Data Network and its packet switches are being phased out of service as rapidly as possible, yet they are a focus of many of the report's findings. Similarly, the multiplexing initiatives were already underway by the services at the time of the audit snapshots and are still undergoing transitions today as the Defense Information System Network. Additionally, management change have been effected related to DMRD 968 and 918 that have significant impacts and changes on the overall management of communications within the Department. Second, much of the report's criticism is focused at the service provider as opposed to the service requester/user. Validation of need is a user-held prerogative as is control of the financial resources. Perceived failures in this area need proper focusing of the report comments.

As such there can be no specific answer to question posed since the projected savings for FY94–FY96 in the report reflect on the snapshot in time—4 and 5 years ago. With the ongoing changes mentioned above, the figures would have little relevance today.

Question. Why had there not been an adequate requirements review of these circuits before the DoD organizations involved were permitted to sign leases?

Answer. There is and has been an effective management evaluation program in place that reviews each and every long-haul telecommunications requirement. This intensive evaluation considers technical adequacy, circuit sizing/routing, availability of spare capacity on existing systems, bundling opportunities, and utilization of economies of scale. Since November 1990, when DMRD 968 was published, customers are provided a monthly list and automated database to assist with the revalidation and assessment of available resources. Additionally, there are specified processes and procedures for acquiring any telecommunications services. Compliance with those ensures an adequate review prior to acquiring services.

LEASED COMMUNICATIONS SERVICES

Question. Based upon findings by the General Accounting Office, in fiscal year 1994 the Committee directed DoD to improve the management of its leasing of commercial communications services. What specifically has been done to reduce the past practice of awarding many small, uneconomical contracts for leases instead of bundling these requirements into larger, and cheaper contracts?

Answer. DISA evaluates all new telecommunications requirements for bundling opportunities or placement on DoD common user systems prior to initiating competitive leasing action.

DISA, under guidance from the Joint Staff, developed, implemented and sustained the World Wide Bundling Program plan as directed by DMRD 968, November 5, 1991. As a result, the Pacific Commercial Telecommunications Network, Defense Spain Italy Reconfiguration, T–1 initiatives, and DISN were pursued and implemented. Where geographically/regionally prudent, this concept is a high priority DISA mission. On occasion, mission requirements (particularly those supporting the National Command Authority) must override the single cost criteria.

Question. The GAO estimated that DoD may lease as much as $2.5 billion a year in all types of commercial communications leases. How much is included in the DoD budget for fiscal year 1995 for all types of communications services leases—both leases that are centralized and those that are not centralized?

Answer. The projected FY 1995 Information Technology budget submission identifies $1,772.3 million for commercial communications services. This does not include all intelligence or command and control related services. Additionally, base level services are not visible in the Service or Defense Agency budget structure. A more detailed analysis with a Service and Defense Agency data call would be required to determine the total centralized and decentralized leased commercial communications services costs for FY 1995.

Question. How much, if anything, has been saved as a result of more efficient requirements definition and procurement of commercial communications services?

Answer. Since the time of the DODIG Audit and draft report, many efforts have been undertaken to reduce the costs of circuits managed by DoD. The AUTOVON/DCTN merger alone resulted in approximately $100 million in annual cost reduction. This effort began in 1990 after the data cutoff of the San Antonio report and before the effects could be identified for the Kansas City report.

Implementation of the Defense Commercial Telecommunications Network will result in a cost avoidance of $240 million. This includes such things as: DCTN Level II implementation phase; AT&T moratorium on AUTOVON contract increases; Annual Subscriber Rate Review; AT&T waiver of Delayed Service Provisioning Fee and Annual Operations and Maintenance increases; New point-to-point circuit (Schedules I and Q) tariff offering; Video Network Enhancement Program Phase I; AUTOVON and DCTN switched voice merger.

There are also initiatives underway for revised T3 services offering, International DCTN service, and video Network Enhancement Program Phase II that will result in cost savings/avoidance that cannot be clearly estimated yet.

[CLERK'S NOTE.—End of questions submitted for the record.]

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